



**European Green Deal**  
*Greening EU cooperation*

# FOREST BASED VALUE CHAINS AND WOOD

 Focus on LAC

 **Wednesday 28 June 2023**

 16.00 to 18.00 (CEST)

**Petri Lehtonen**

# Value creation from forests



- Actual trade value
- Most income and job creation
- 90% wood products

**Wood products:**

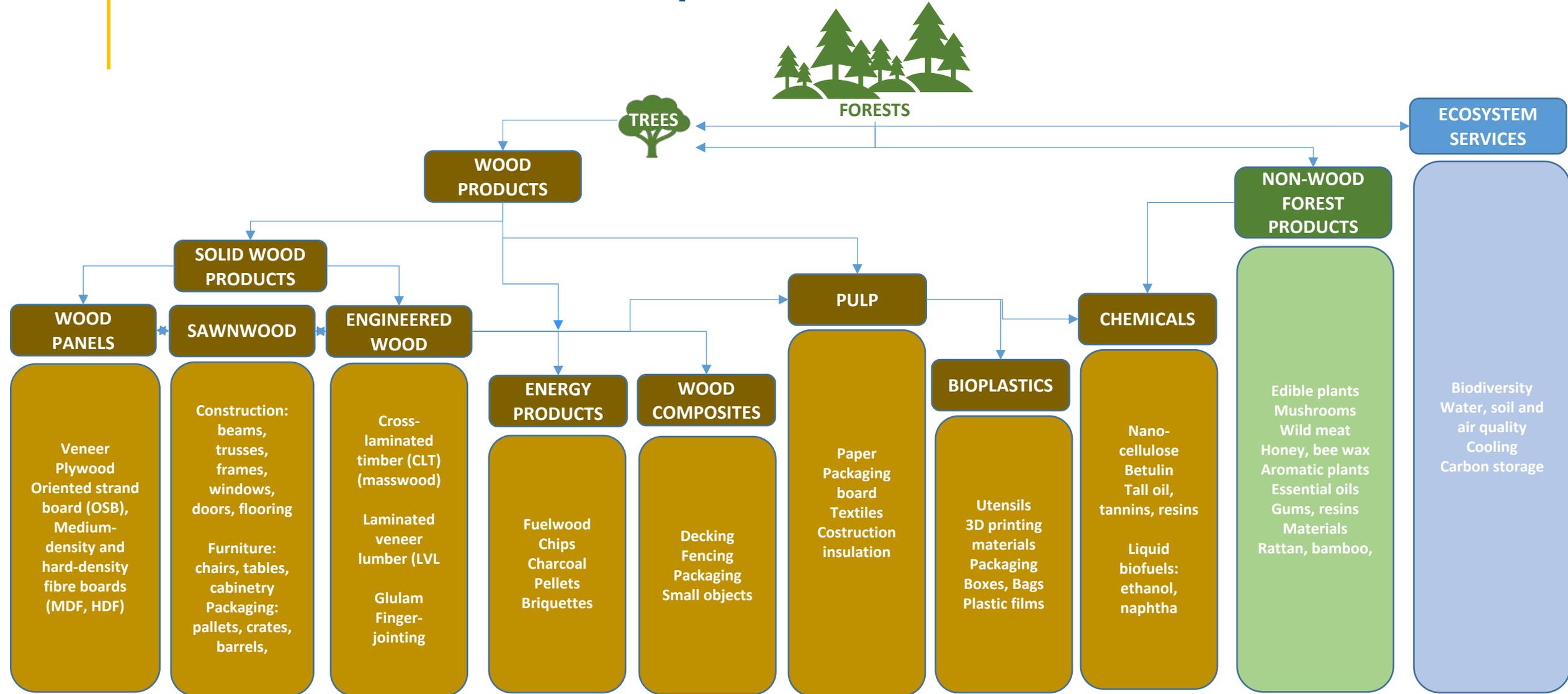
Global value: EUR 1,500 billion  
 Formal jobs: 33 million  
 Informal/ subsistence: 200-300 million

*Mostly smallholders, communities and SMEs in rural areas*

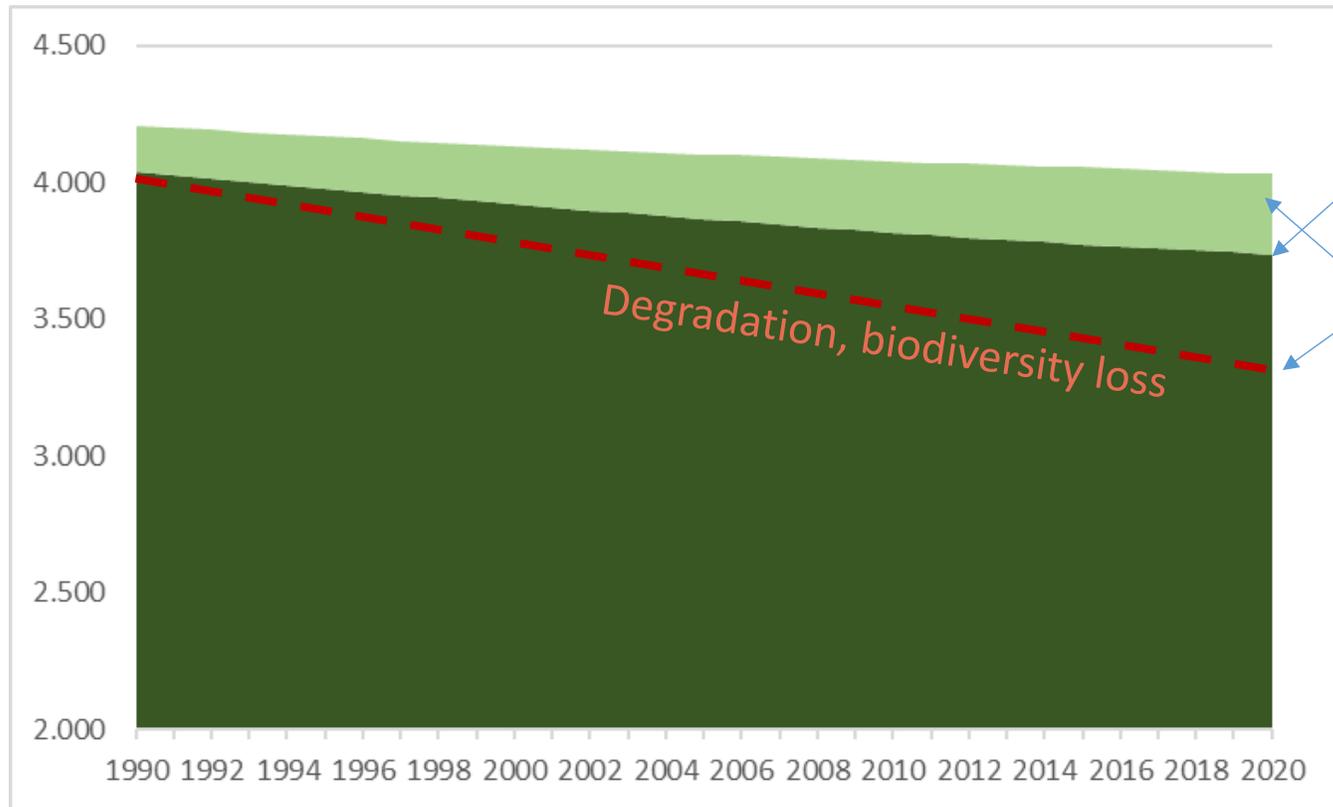
**Climate value (carbon sink)**      **Social value (subsistence)**      **Environmental value (biodiversity)**      **Commercial value (traded products)**

Adapted from: Boston Consulting Group: The Stragging Value of Forests 2020 and FAO State of the World's Forests

# Universe of forest products and services



# Global forest area (1990- 2020) million ha



Loss of natural forests  
300 million ha (7%)

Even greater loss of  
biodiversity due to  
degradation

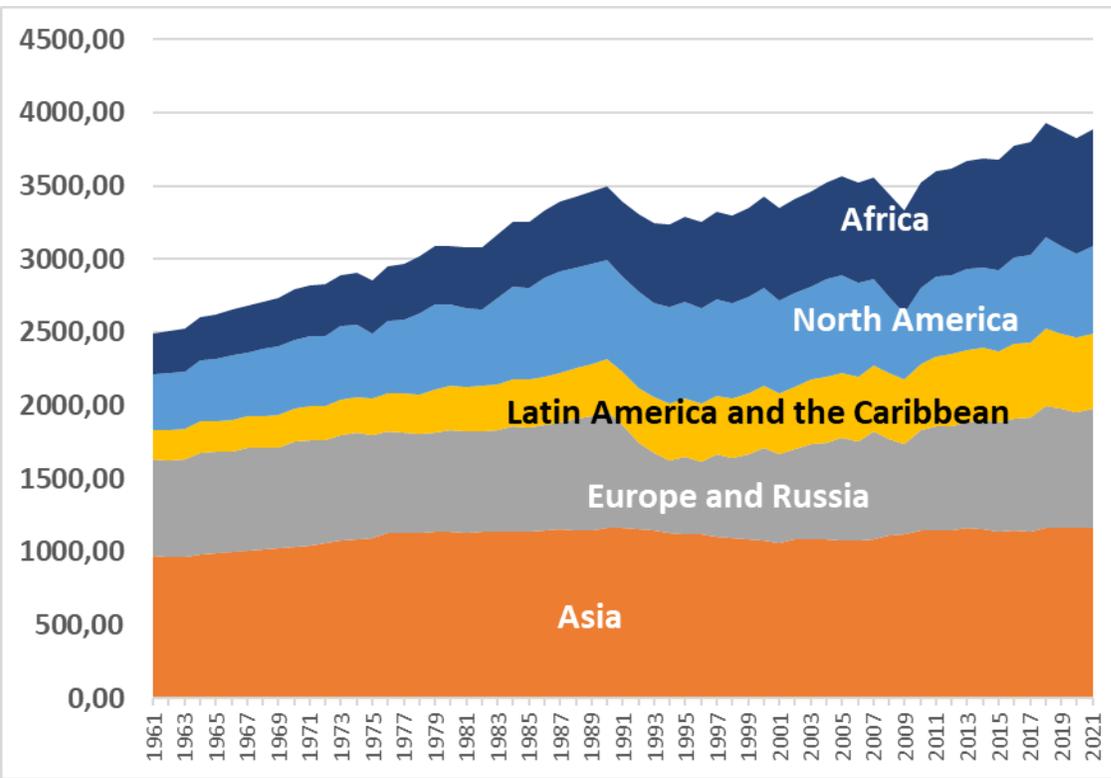
290 million ha of planted  
forests supply 30 to 40% of  
global industrial wood

and about 60 to 70% of  
global industrial wood in  
the tropical and sub-tropical  
areas

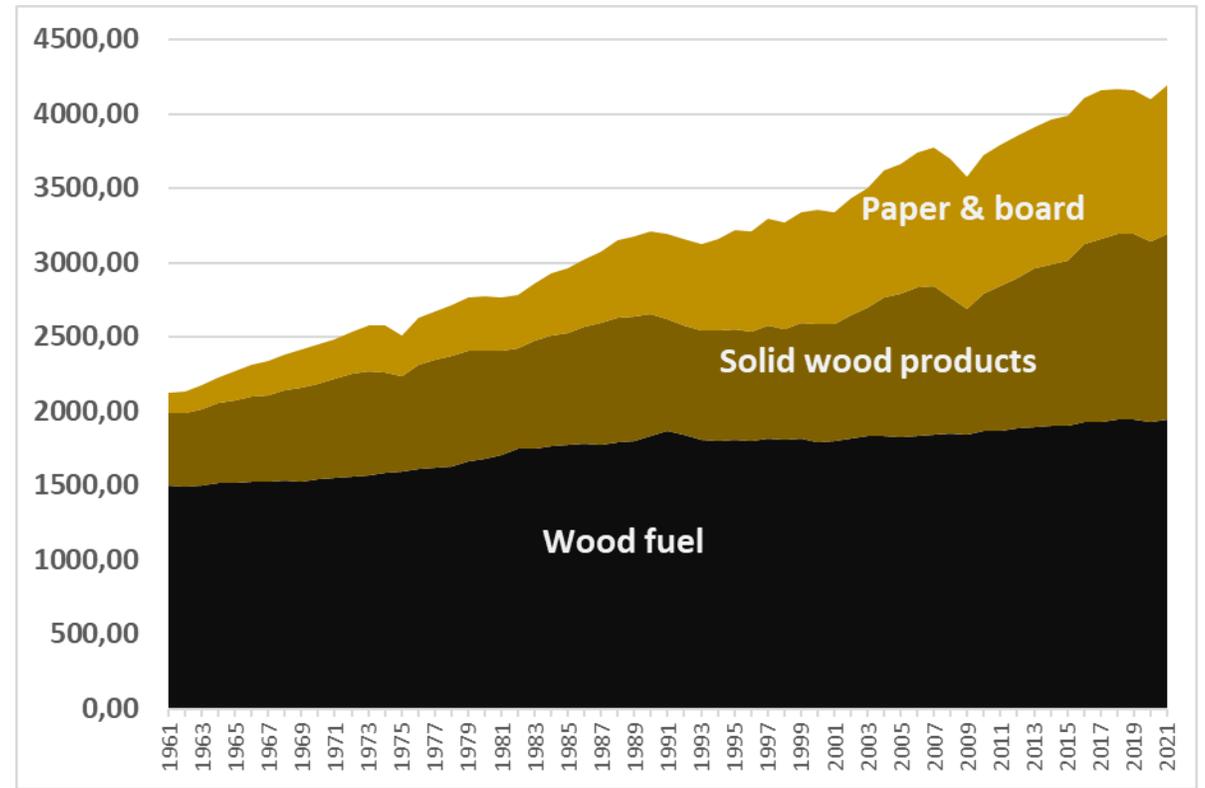
Data FRA 2020

# Production of roundwood and consumption of wood products (1961-2021)

Global production of roundwood by region, million m<sup>3</sup>



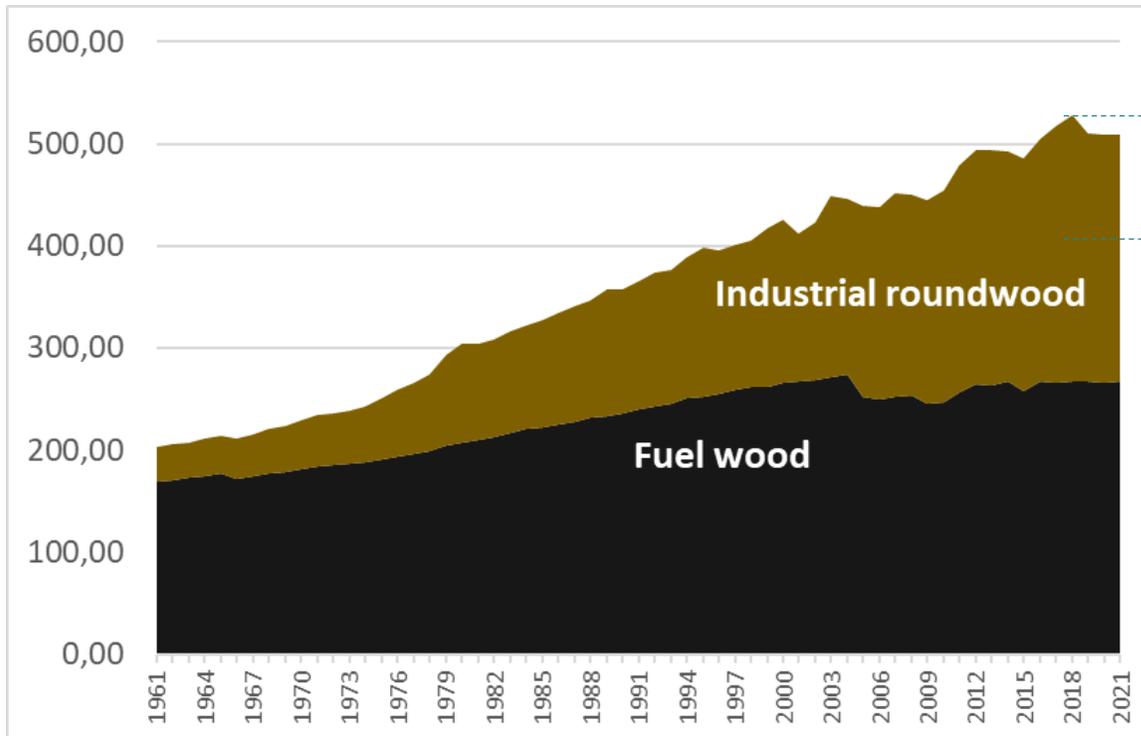
Global consumption of wood products, RWE million m<sup>3</sup>



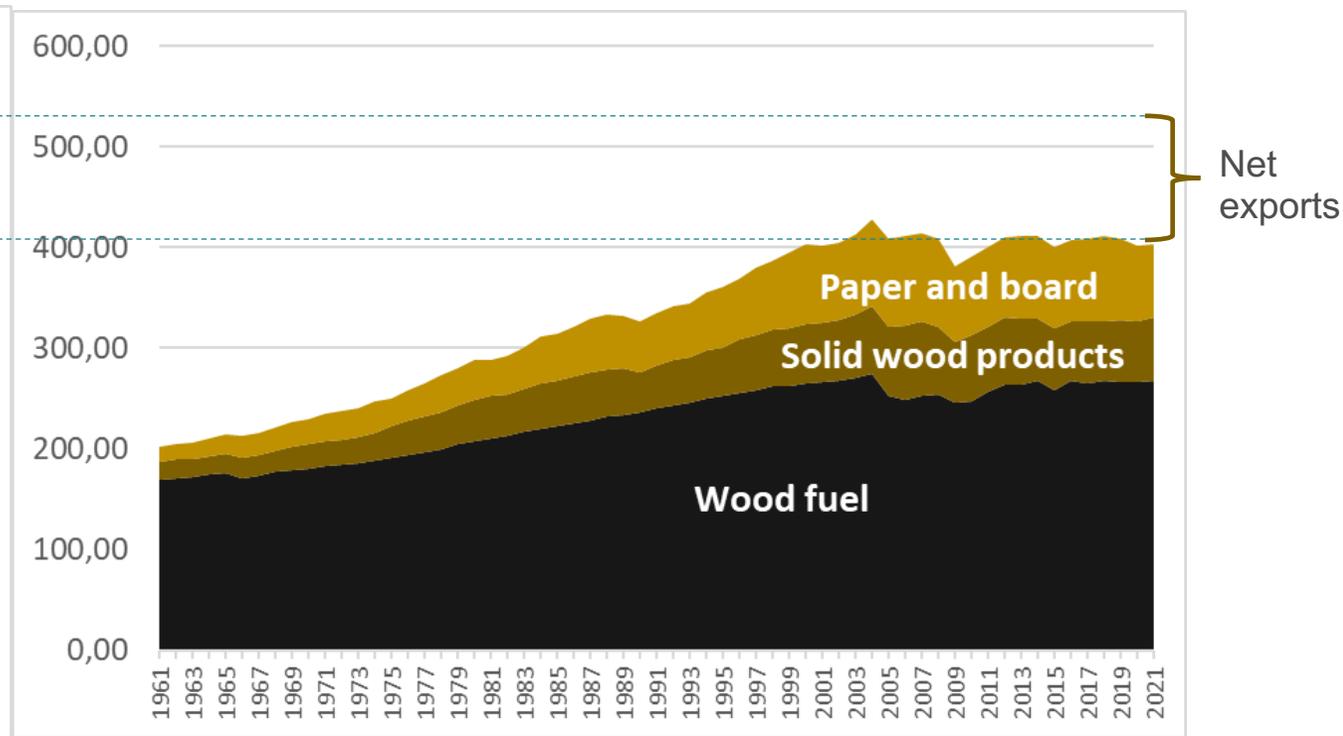
Data: FAOSTAT Forest product statistics 2023

# Production and consumption of wood products in Latin America and the Caribbean (1961-2021)

Production of roundwood, million m<sup>3</sup>



Consumption of wood products, RWE million m<sup>3</sup>



Data: FAOSTAT  
Forest product statistics 2023



# Major drivers of future demand in partner countries

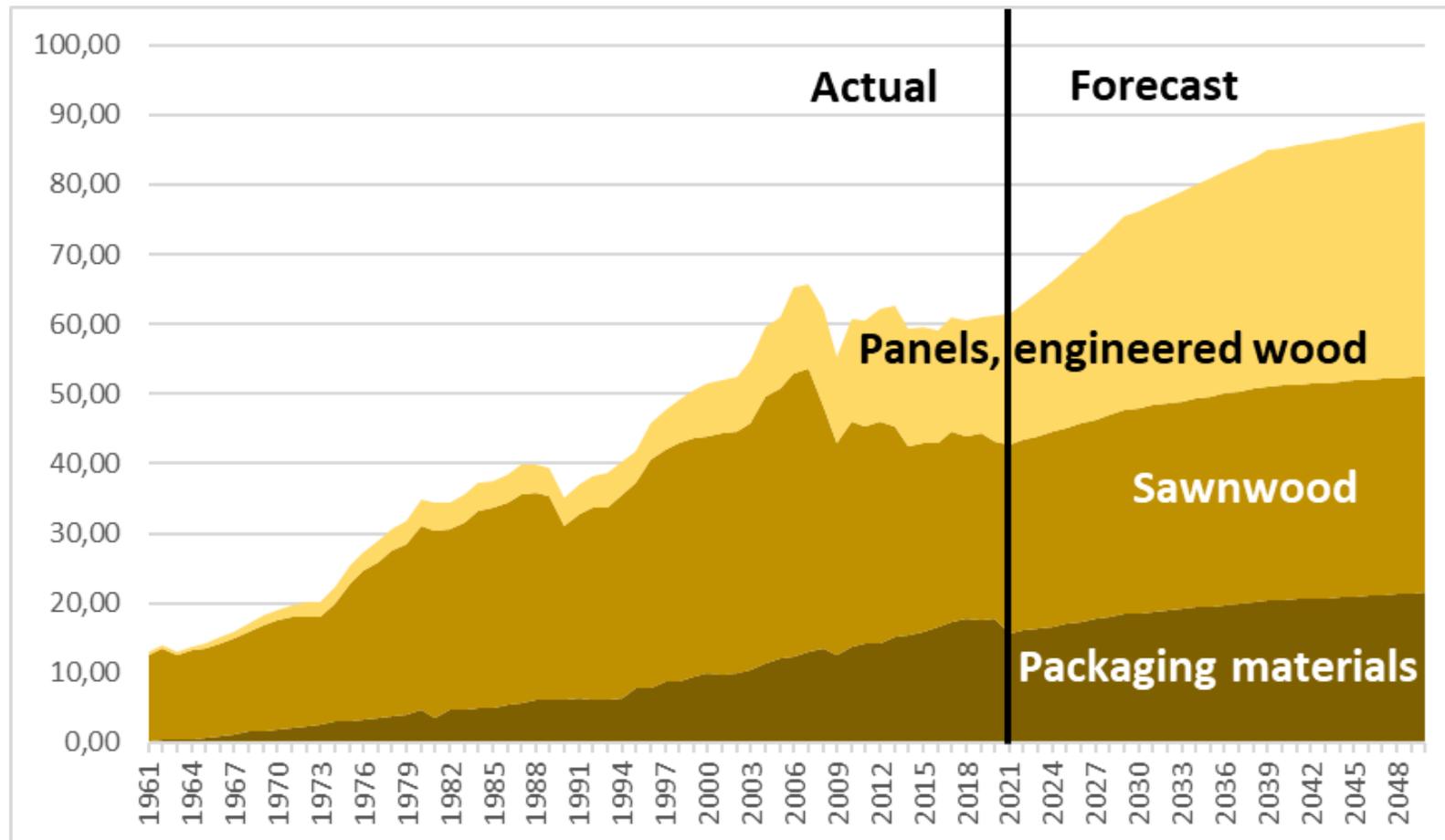
Urbanisation

Housing shortage

Decarbonising economies

# Latin America and the Caribbean: Consumption of solid wood products and packaging materials (1961-2021) and forecast/vision (2022-2050)

RWE million m<sup>3</sup>



Shift to sustainable products with long term carbon storage

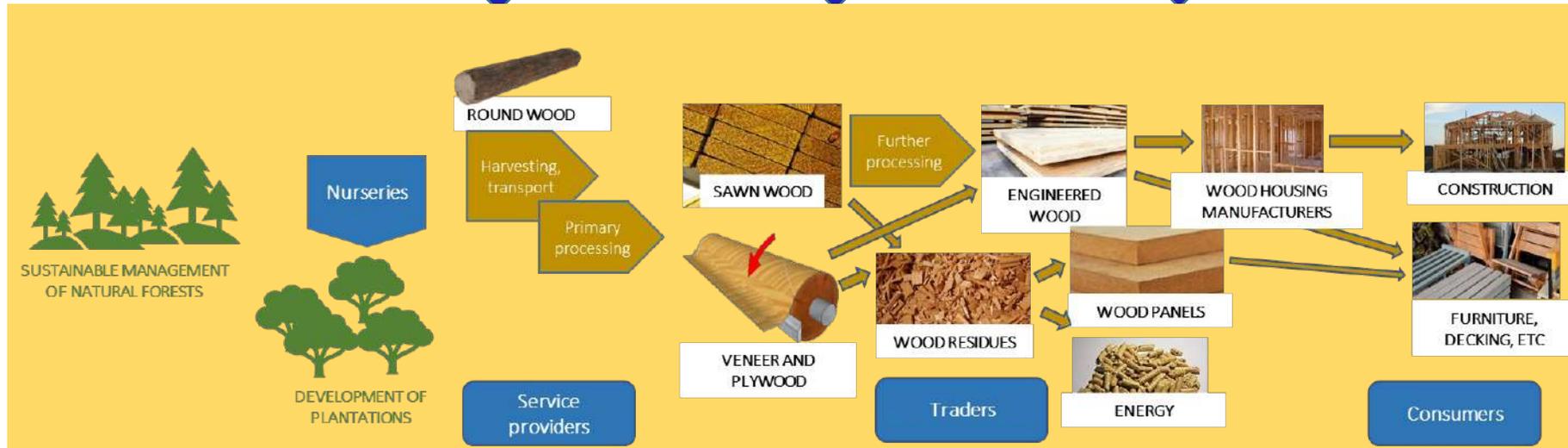
Data: FAOSTAT Forest product statistics 2023 and estimations based on urbanization (and past growth)

# Opportunities for an EU role

Governance and enabling business environment

Investments in physical and social infrastructure

Skills, capacities development



Sustainable Forest Management

Plantations, agroforestry

SME support

Product development

Green procurement



# Highlights



Forest products are a significant part of global renewable natural resources

Sustainable use of forests and wood products contribute to carbon-neutral and circular economies

Forest-based value chains generate jobs and better livelihoods and contribute to inclusive economic growth

EU support can be a game changer for developing sustainable forest-based value chains, if it helps reduce risks and accelerate the urgently needed investments.

# Thank you



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Food and Agriculture  
Organization of the  
United Nations

# **INNOVATIVE WOOD PRODUCTS:**

# **ESSENTIAL FOR ACHIEVING CARBON NEUTRAL & RESILIENT ECONOMIES**

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**Lyndall Bull, FAO**

Presentation for the European Commission  
June 2023

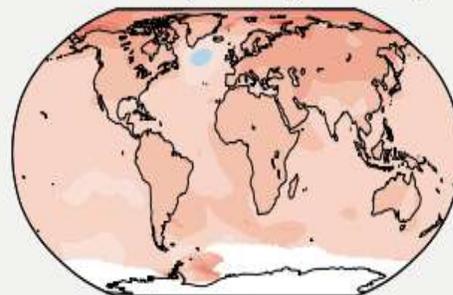
# **THE WORLD FACES INTERLINKED CHALLENGES RELATED TO FORESTS**

# THE WORLD HAS A CLIMATE CHALLENGE

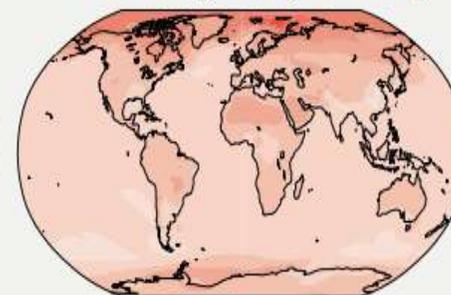
## (a) Annual mean temperature change (°C) at 1°C global warming

Warming at 1°C affects all continents and is generally larger over land than over the oceans in both observations and models. Across most regions, observed and simulated patterns are consistent.

Observed change per 1°C global warming



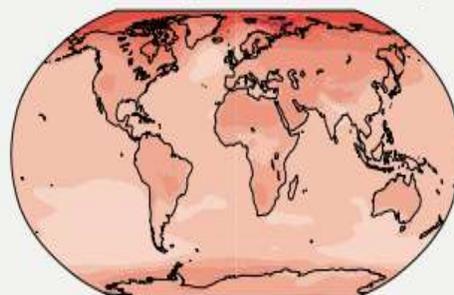
Simulated change at 1°C global warming



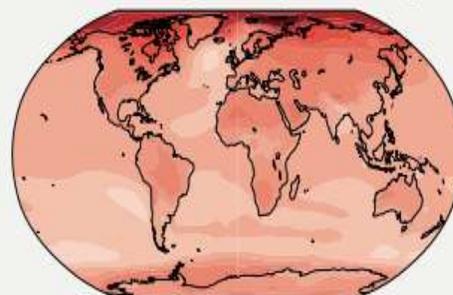
## (b) Annual mean temperature change (°C) relative to 1850-1900

Across warming levels, land areas warm more than ocean areas, and the Arctic and Antarctica warm more than the tropics.

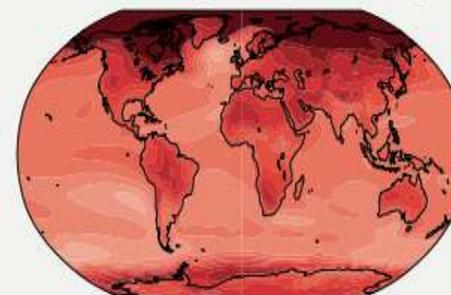
Simulated change at 1.5°C global warming



Simulated change at 2°C global warming



Simulated change at 4°C global warming



# THE WORLD HAS A NATURE & BIODIVERSITY CHALLENGE

↓47  
%

**Natural ecosystems ↓**

↓25  
%

**~25% of species threatened with extinction**

↓23  
%

**Biotic Integrity ↓ in terrestrial communities**

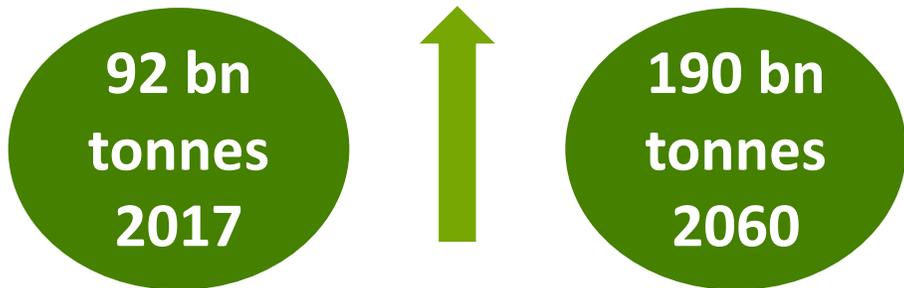
↓82  
%

**Global biomass of wild mammals ↓**

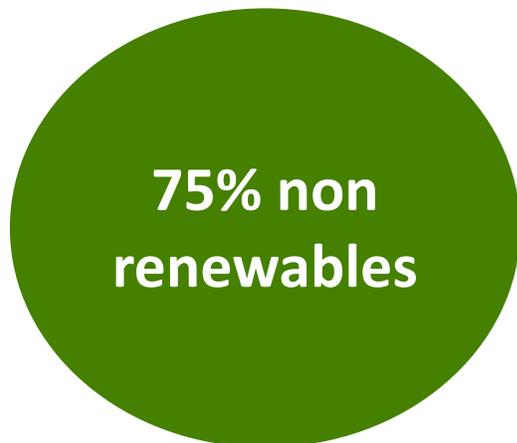
# THE WORLD IS DEMANDING MORE MATERIALS



**Global population ↑**

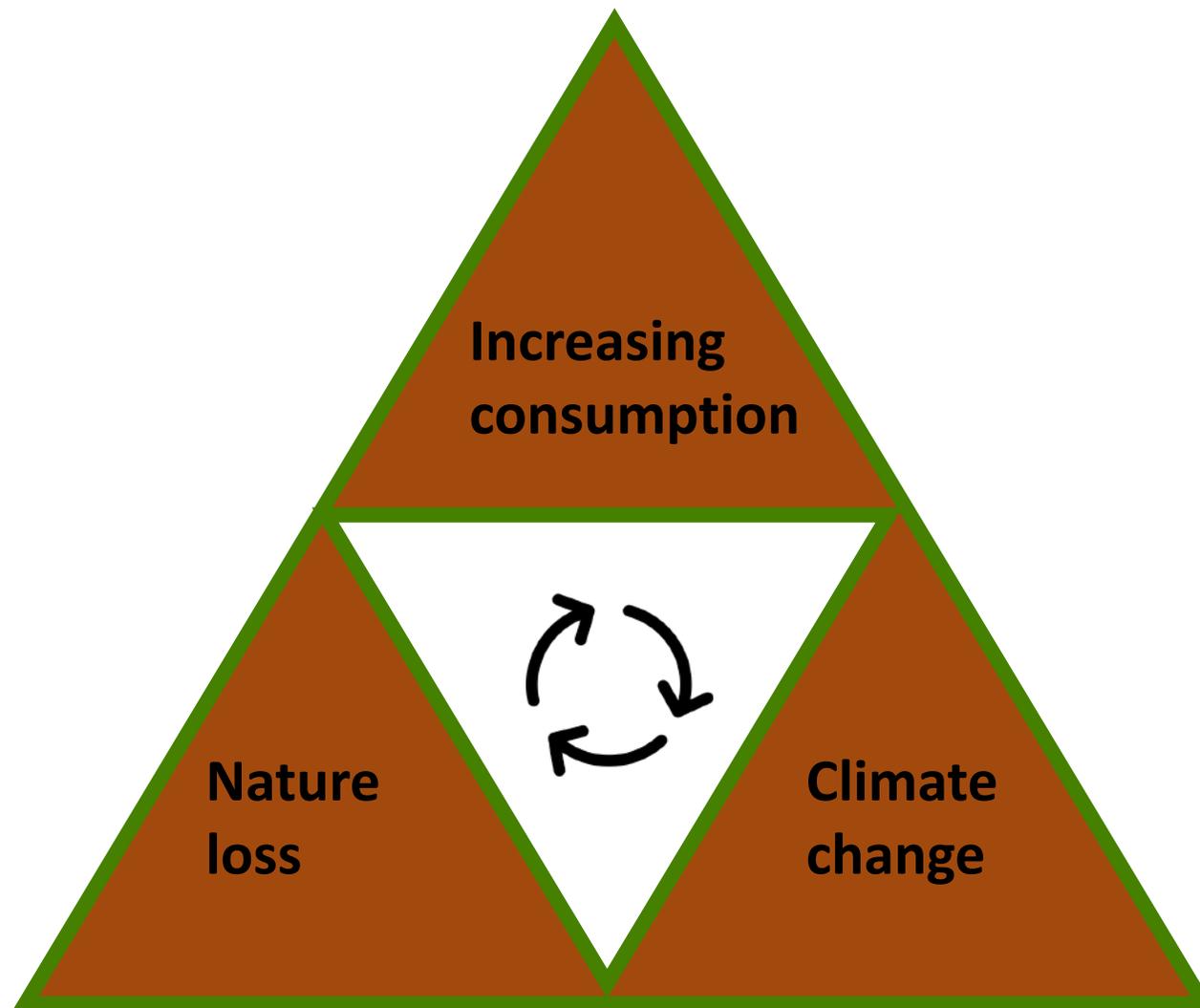


**Doubling consumption of natural resources**



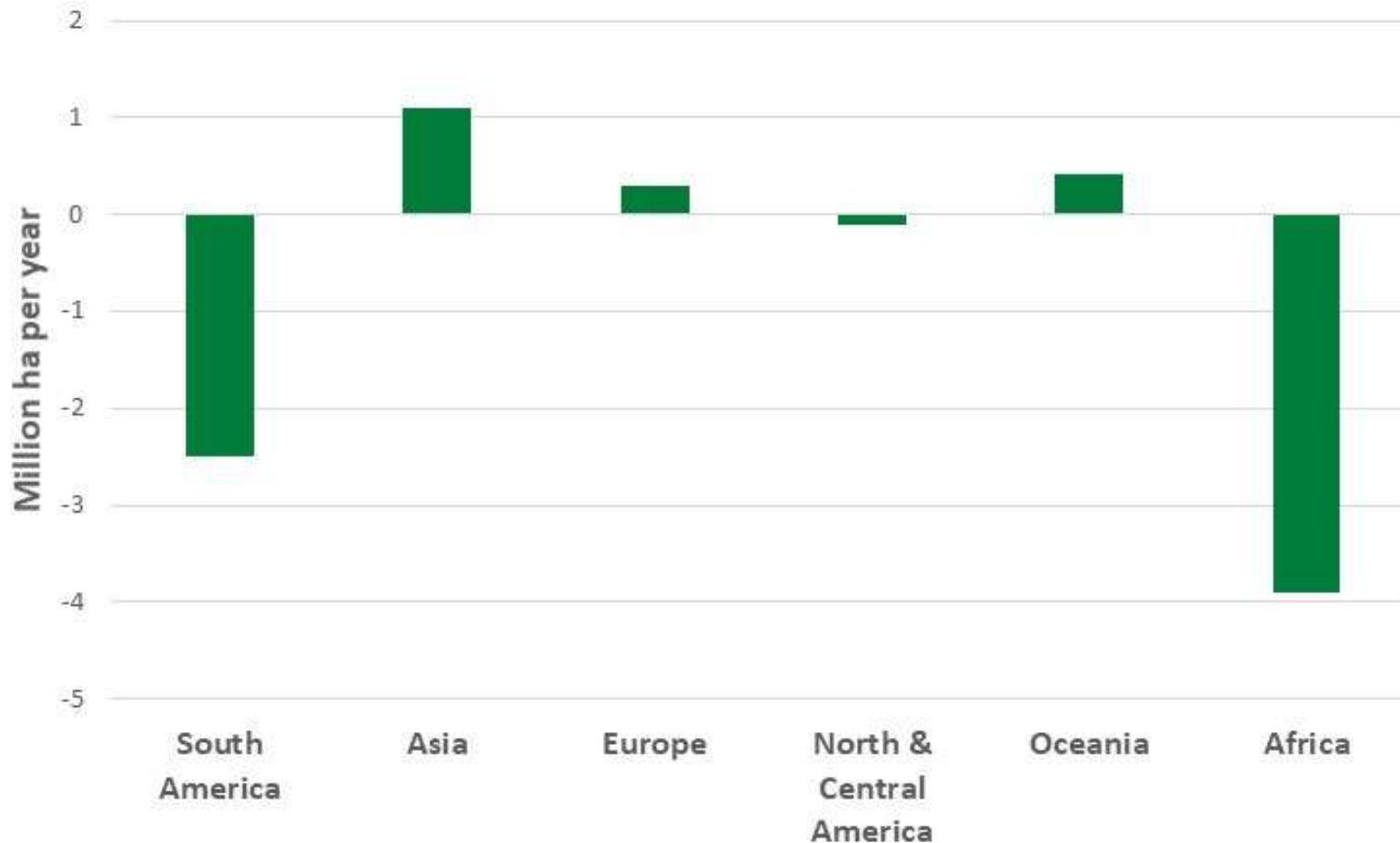
**Bulk of material demand met with non renewables**

# THREE INTERLINKED CHALLENGES



# DEFORESTATION MUST BE ADDRESSED

## ANNUAL FOREST AREA NET CHANGE BY REGION, 2010 -2020



**10 - 15 % of total emissions from deforestation & land use change**

**Africa had the highest net loss of forest area in 2010-2020**

# ECOSYSTEM RESTORATION

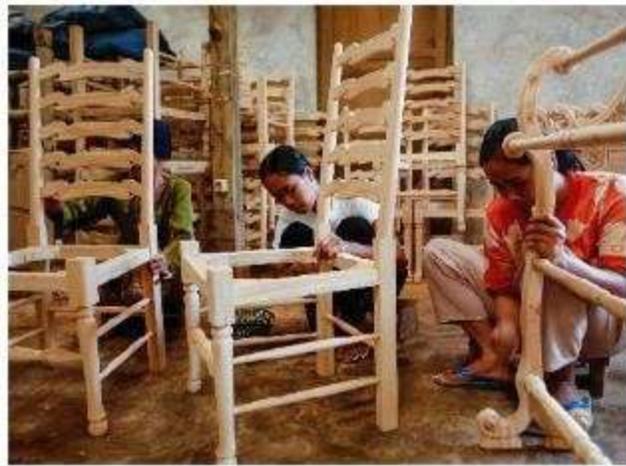


**2 billion  
hectares**

**Degraded land worldwide:  
area the size of South  
America**

**Forest and Landscape Restoration  
Mechanism (FLRM) helps countries restore  
degraded landscapes**

# SUSTAINABLE WOOD PRODUCTS - ESSENTIAL IN THE TRANSITION TO CARBON-NEUTRAL ECONOMIES



# WHY WOOD PRODUCTS?

Trees **SEQUESTER** carbon as they grow

Wood products **STORE** carbon in harvested wood products e.g. plywood, sawnwood, furniture

Wood products can **SUBSTITUTE** for fossil-based products & environmentally harmful products

# CONSTRUCTION & THE BUILT ENVIRONMENT

≈ 40% of global energy & process-related GHG emissions

≈ 55% of developed-countries waste

Buildings account for:



Source: European Commission. 2021. Factsheet - Energy Performance of Buildings. Brussels.

***Unless construction and the built environment decarbonises,  
climate goals will not be realised***

# CONSTRUCTION & THE BUILT ENVIRONMENT

Construction will drive the demand for wood

Demand in the construction sector is expected to almost triple by 2030

# CONSTRUCTION WILL DRIVE THE DEMAND FOR WOOD

~3 billion people (40 % world population)  
will need new housing by 2030

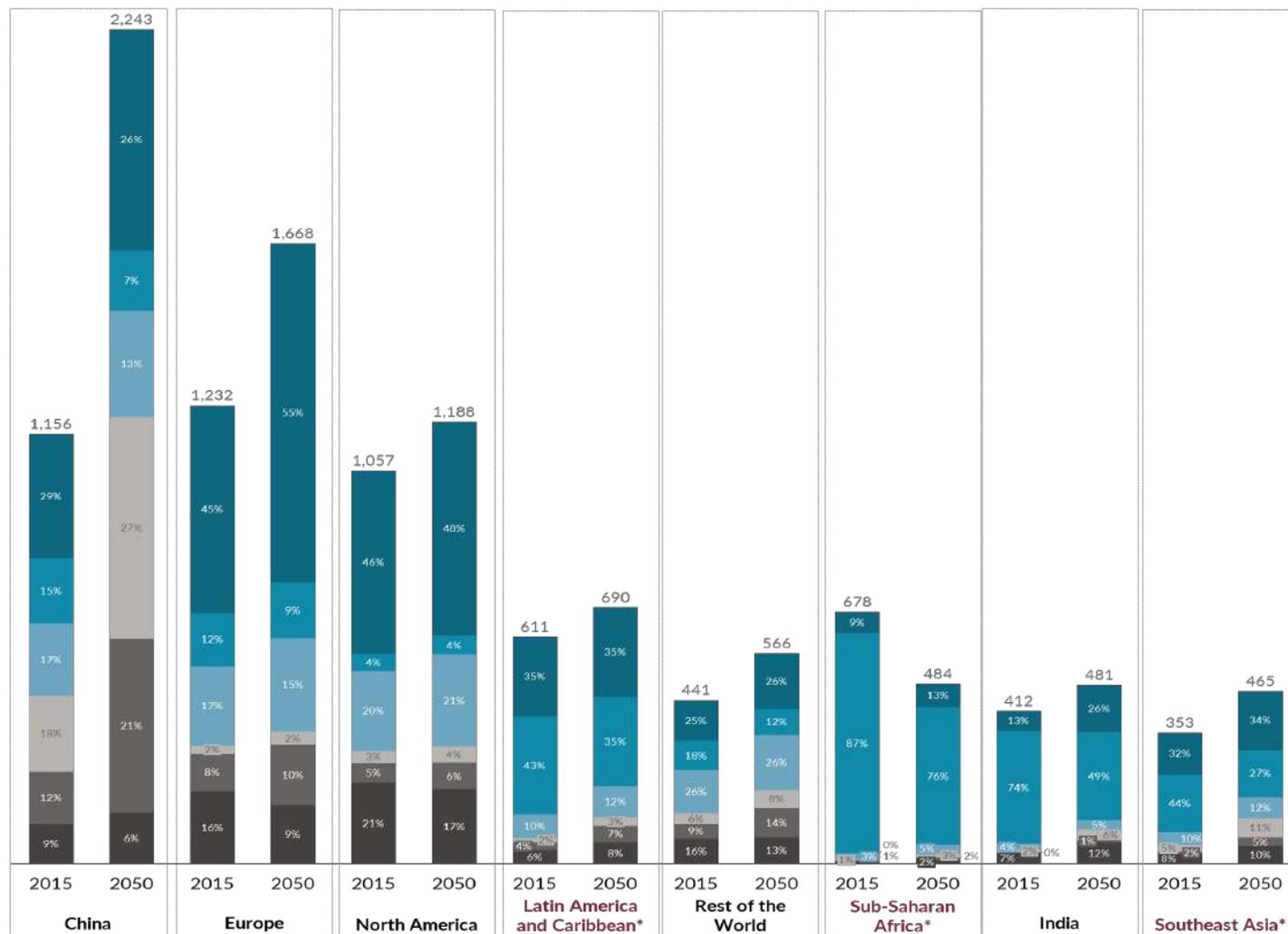


≈ 300 million new dwellings (World Bank, 2016)



# MUST BE ABLE TO PROVIDE SUSTAINABLE SUPPLY OF WOOD

## Forecasted 2050 wood demand



37% increase RWE from 2020 - 2050

+102 percent for veneer/plywood and +72 percent for particle/fibre board

Additional substitution would further impact these figures

Industrial Roundwood Woodfuel Sawnwood Veneer and Plywood Particleboard and Fibreboard Woodpulp

\*denotes tropical producer regions

# CONSTRUCTION & THE BUILT ENVIRONMENT

Modern wooden construction materials (e.g. CLT), can significantly reduce emissions

For every 1kg of carbon in wood that replaces a non-wood material in a building system could produce an emission reduction of about 0.9kg of carbon

# POSSIBLE THROUGH INNOVATIVE WOOD PRODUCTS

Glued solid timber



Glued laminated timber (glulam)



Parallel Strand Lumber (PSL)



Composite elements (I-beams)



Cross-Laminated Timber (CLT)



Laminated Veneer Lumber (LVL)



# DEMAND FOR HOUSING & CONSTRUCTION: LATIN AMERICA & THE CARIBBEAN

81% of its population live in urban areas. It is the most urbanized developing region in the world (IDB 2023)



The population in LAC is expected to increase to around 755 million by 2050 (from 654 million in 2021)



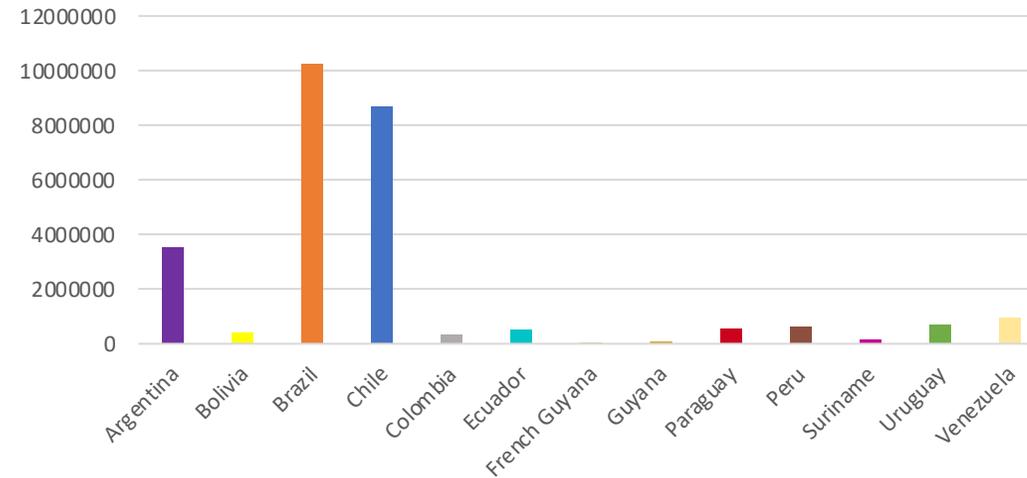
The poorest and most vulnerable live in informal settlements and precarious housing



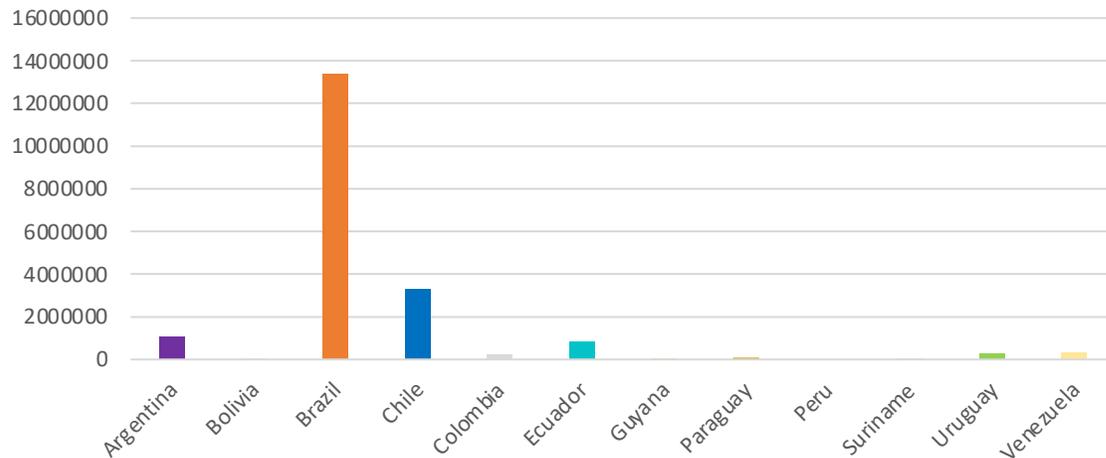
Estimates are that more than 17 million people in LAC will be forced to move by 2050, **increasing** urban population growth by up to 10% (World Bank 2022)

# OPTIONS FOR SUPPLYING WOOD PRODUCTS DIFFER ACROSS LAC

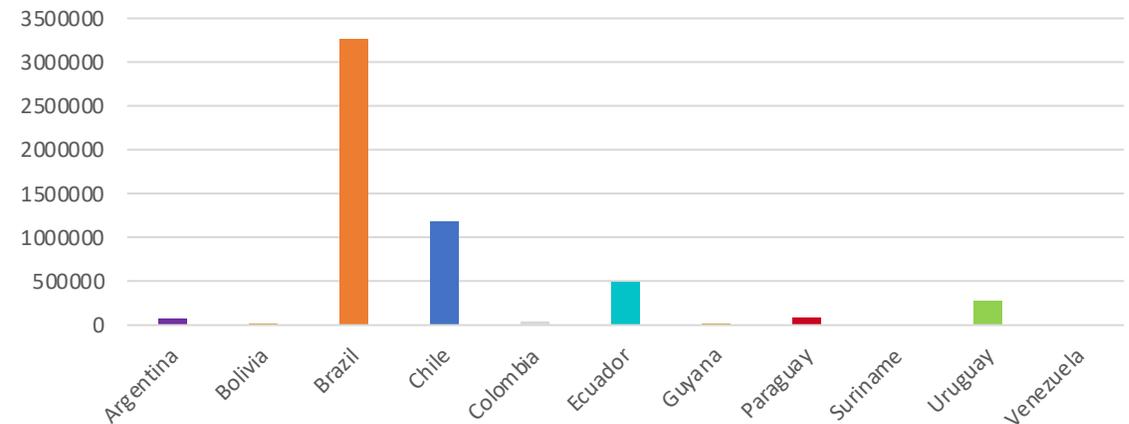
## Sawnwood production (m<sup>3</sup>)



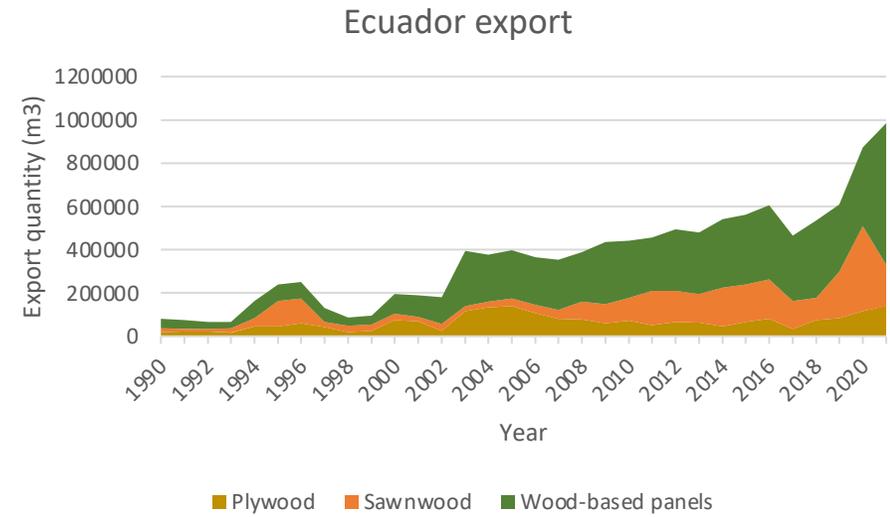
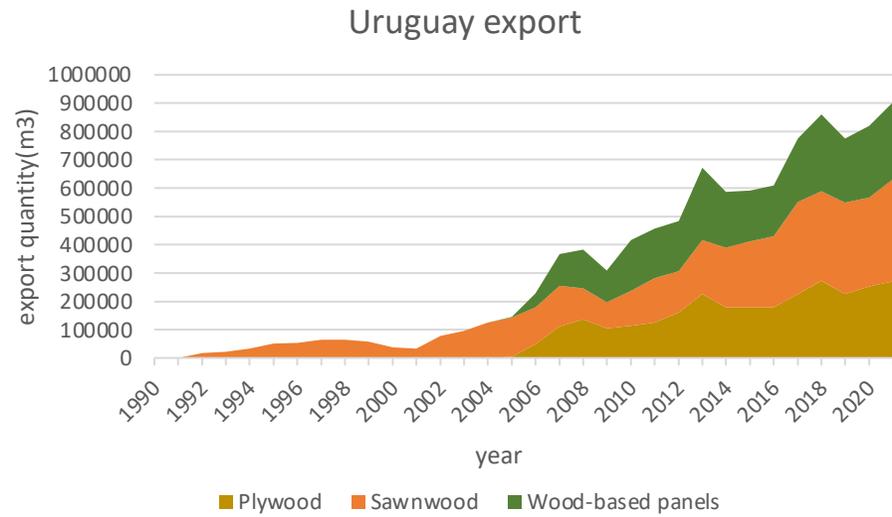
## Wood based panels (m<sup>3</sup>)



## Plywood production (m<sup>3</sup>)



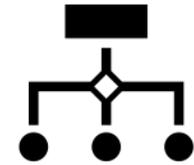
# OPTIONS FOR SUPPLYING WOOD PRODUCTS DIFFER ACROSS LAC



# What's needed to realise the opportunity?

## Cross-cutting

- Supportive policy & enabling environment
- Capacity and skills development
- Finance & investment



## Applied:

- Forest asset development: linked with markets and value chains
- Data and information on future supply and demand trends
- Organizing & scaling up SMEs in forest-based value chains
- Product & market and development
- Green procurement and support for green buildings





**Thank you!**



# FOREST-BASED BIO ECONOMY (BE2): FOREST OPPORTUNITIES THROUGH RESTORATION, ECOPRODUCTS AND SUBSTITUTION FOR TRANSFORMATION



**Forest:** Fibres, Fuelwood, Feed & Food – key forest resources providing feedstock for a growing bioeconomy



**Opportunities:** catalysing the transition to a bioeconomy based on the 4R (reduce, reuse, recycle, residual management)



**Restoration:** facilitating the full contribution of the forest-based industries to ecosystem Restoration



**Ecoproducts:** supporting the further development of existing and emerging renewable forest products, including wooden construction materials, pulp and paper, biochemicals, bioenergy and forest foods

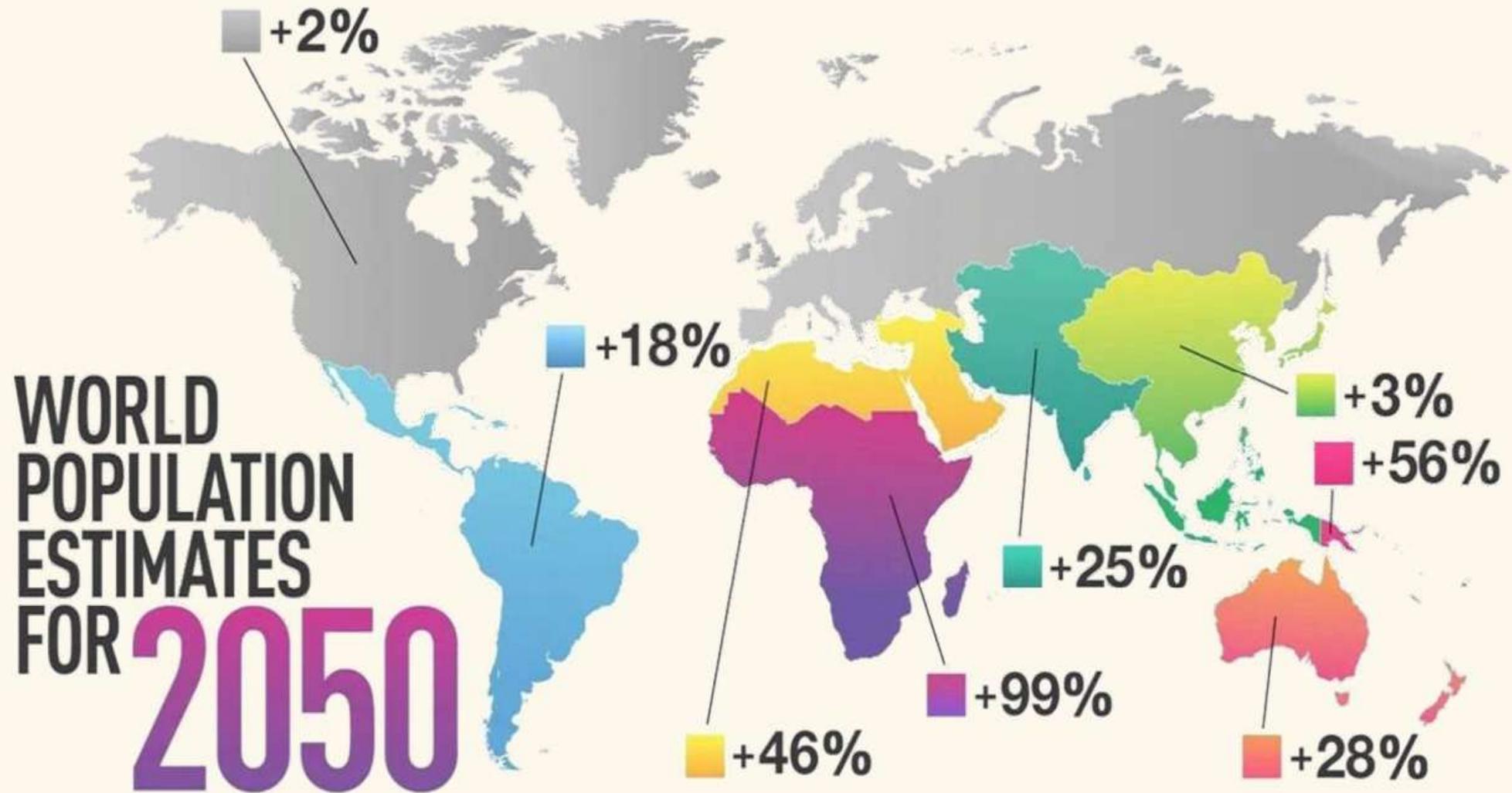


**Substitution:** promoting carbon storage in harvested wood and possible Substitution of high-carbon products

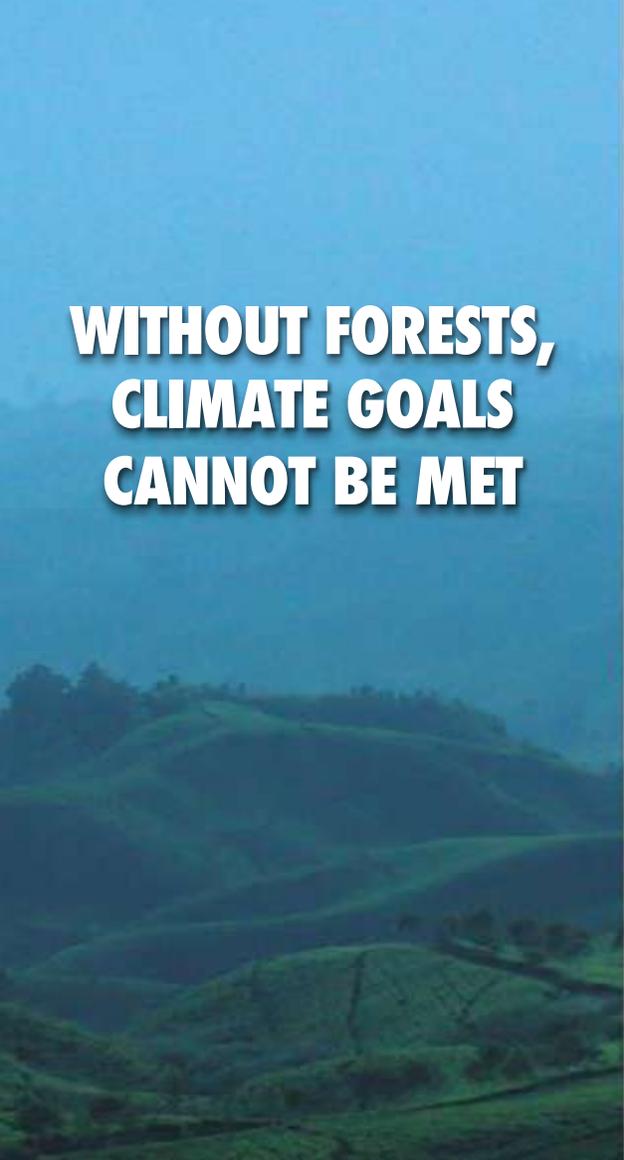


**Transformation:** catalysing the Transformation of forest product value chains to be MORE efficient, inclusive and resilient

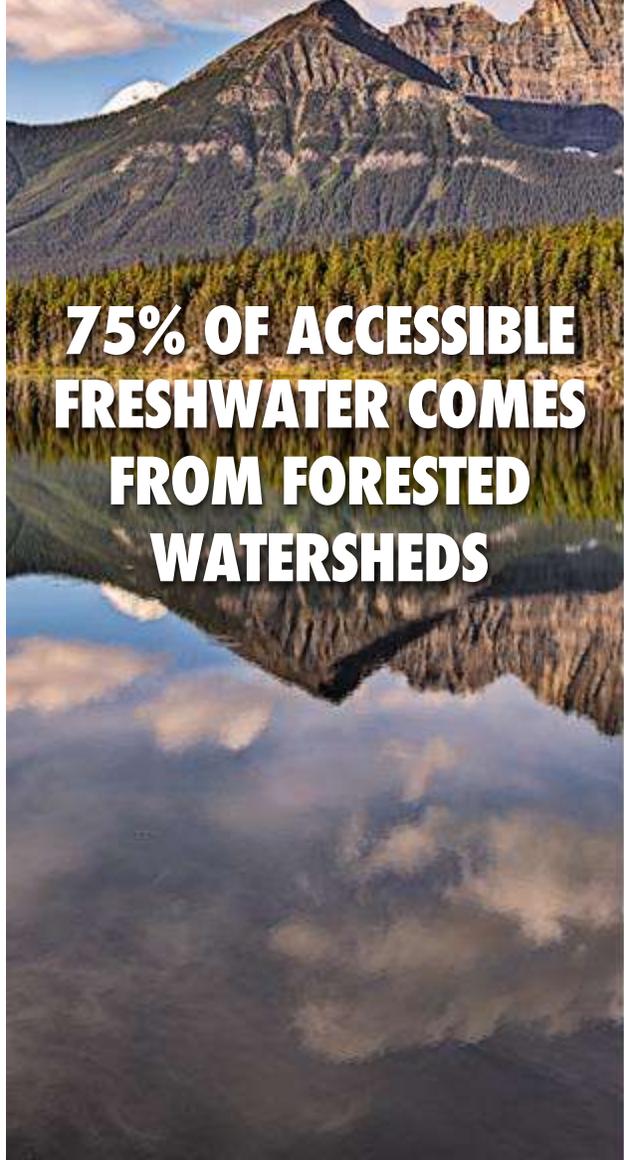
# MAJORITY OF THE DEMAND IN THE GLOBAL SOUTH



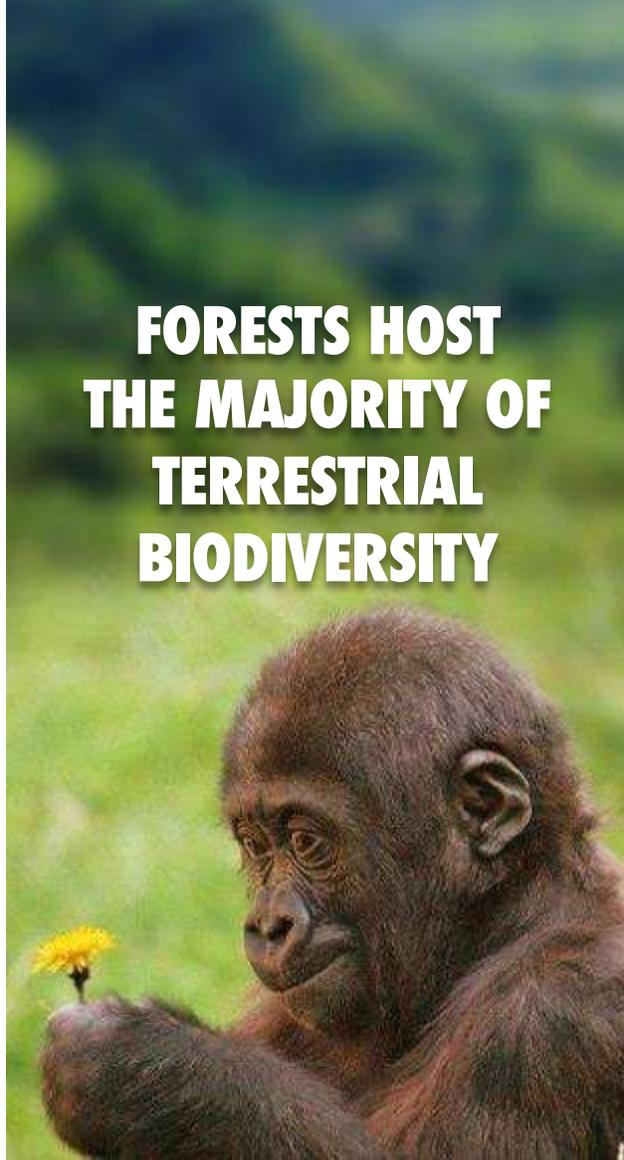
# Forests contribute to climate, restoration & biodiversity targets



**WITHOUT FORESTS,  
CLIMATE GOALS  
CANNOT BE MET**



**75% OF ACCESSIBLE  
FRESHWATER COMES  
FROM FORESTED  
WATERSHEDS**



**FORESTS HOST  
THE MAJORITY OF  
TERRESTRIAL  
BIODIVERSITY**



**KEY ROLE IN  
RESTORING  
DEGRADED LAND**

# Forests and forest products contribute to many SDGs



Food and Agriculture  
Organization of the  
United Nations



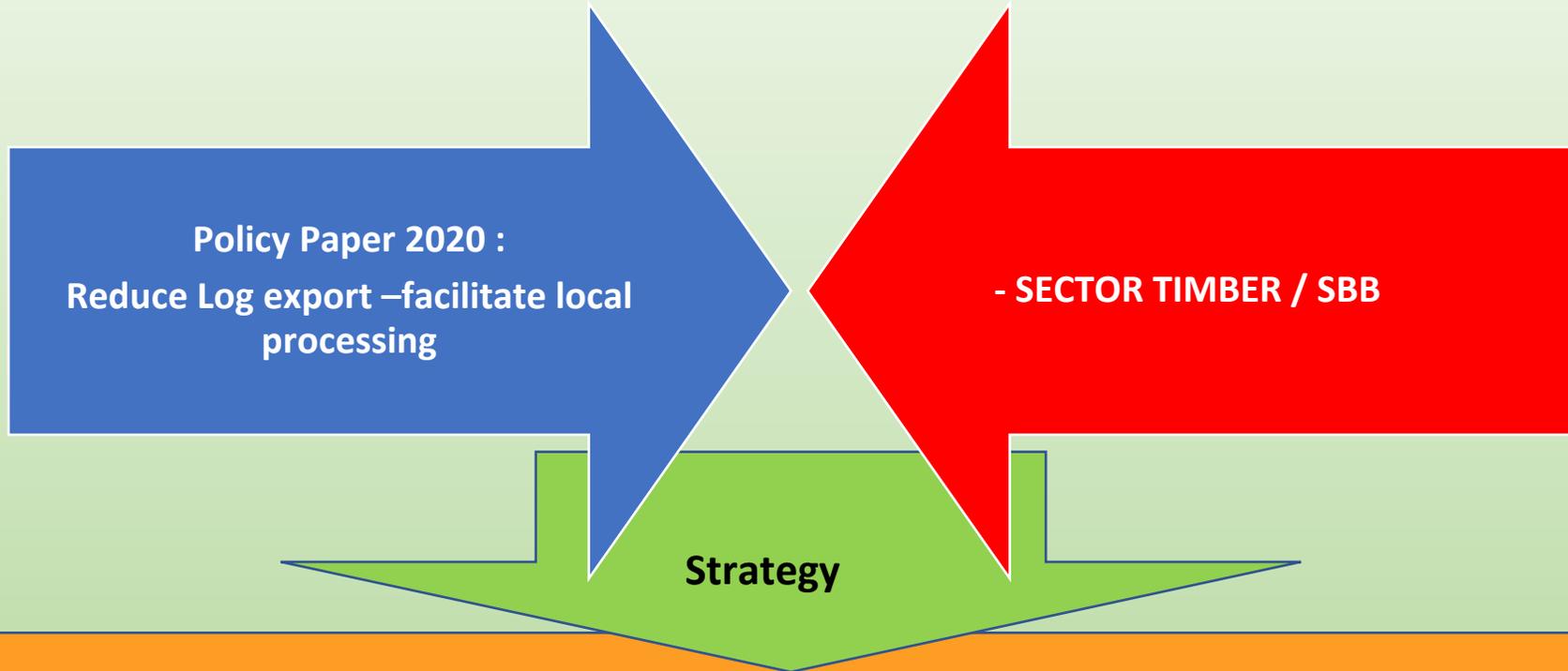
**SUSTAINABLE  
DEVELOPMENT  
GOALS**

# Suriname – Green Wood Processing

The way forward

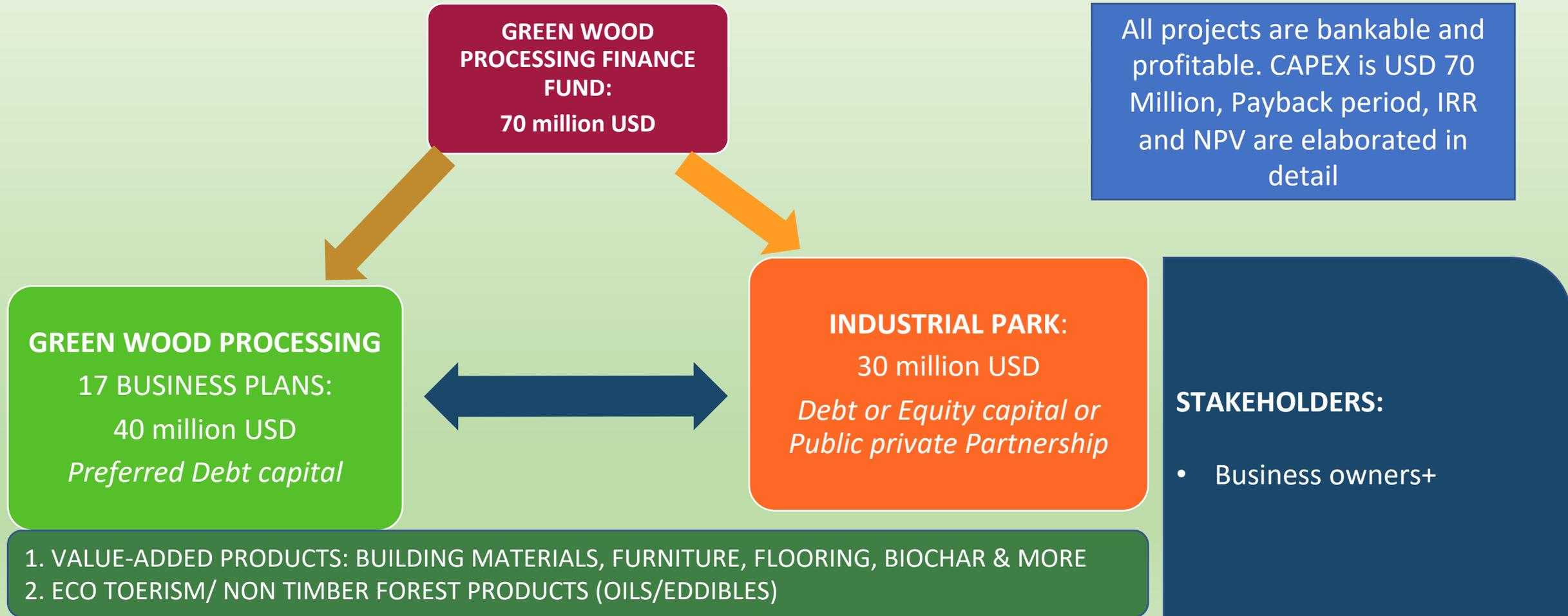


# Business Climate



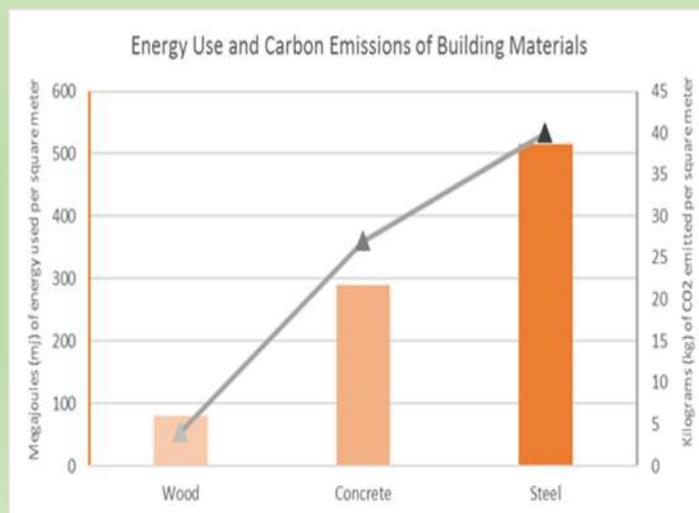
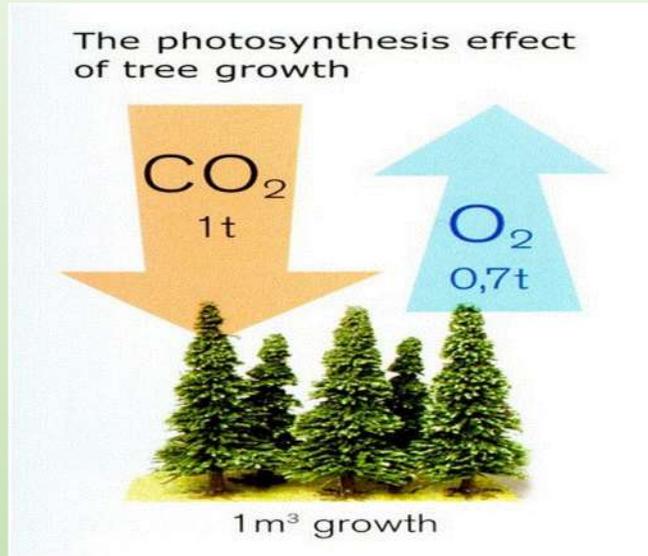
- REDUCE ROUND WOOD EXPORT
- USE SAME AMOUNT TO PROCESS LOCALLY (SUSTAINABLE)
- TURN WASTE INTO NEW PRODUCTS
- ADD NON TIMBER FOREST PRODUCTS & ECO TOERISM (optimizing the use of the forest)
- IDENTIFY LOCAL COMPANIES WHO WANT TO INVEST (the first 17 business cases)

# Optimizing the Timber Value Chain



# Timber

## Why the use of wood is GREEN for the climate and Suriname



The HIGH potential of value-added revenues from wood

Product	USD per m <sup>3</sup>
Round wood value at Export	218
Price for rough sawn wood	300-350
Wood planed and dried	600-700
Value in a piece of furniture ( a table)	2910 - 3500
Wallaba decking ( outside flooring)	1863

- ☐ STARTING POINT: **Decrease export of logs,**
- ☐ **Increase local wood processing**

Ideal material for a circular economy

# Country Policy

Reduce Log exports and increase local processing

Enforce the code of practice to all users of the forest

Facilitate the value chain

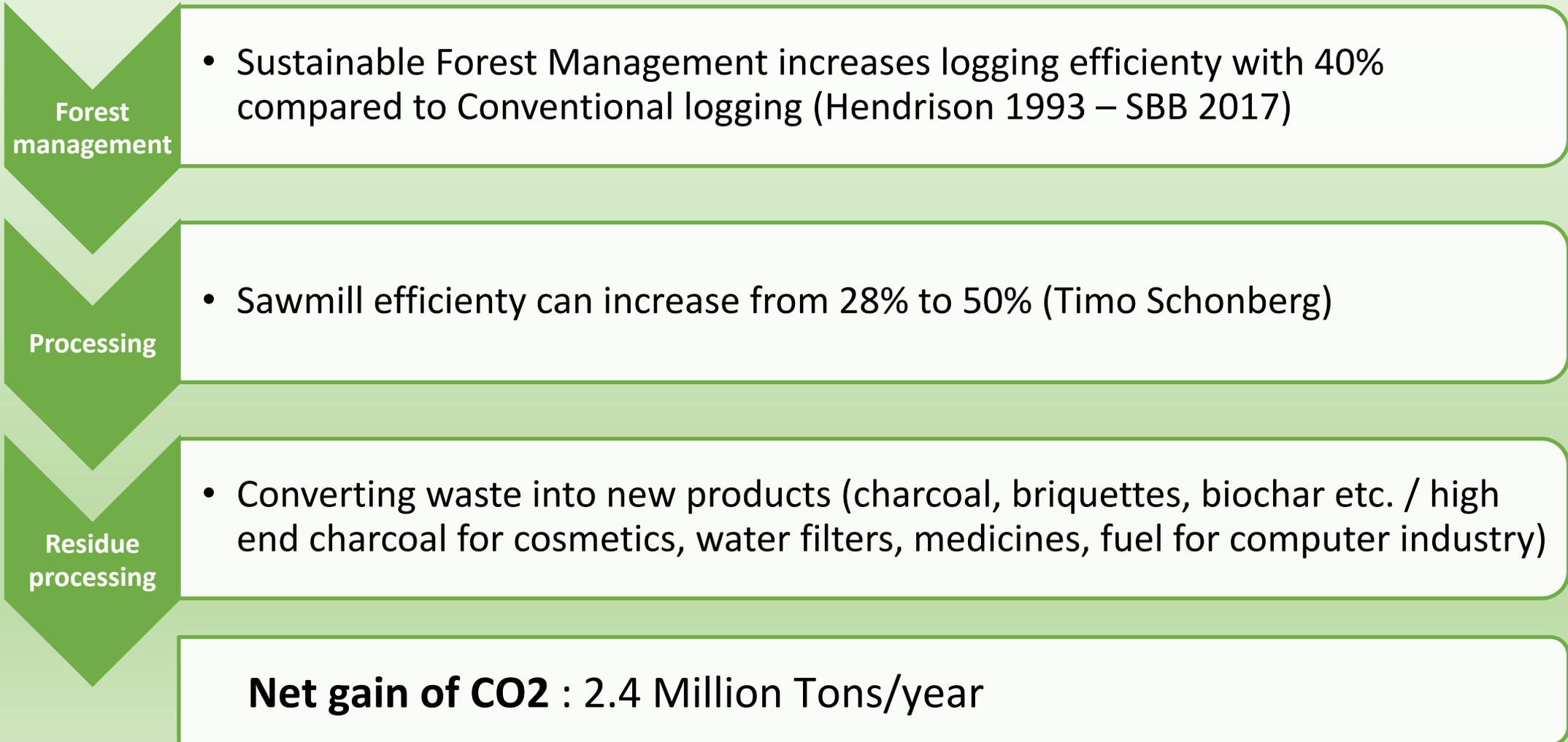
Make new products out of the residue

Increase efficiency and productivity

Prepare the producers to upgrade the quality standards to international levels

Reduce risk for international investors and financiers

# Creating Carbon Credits

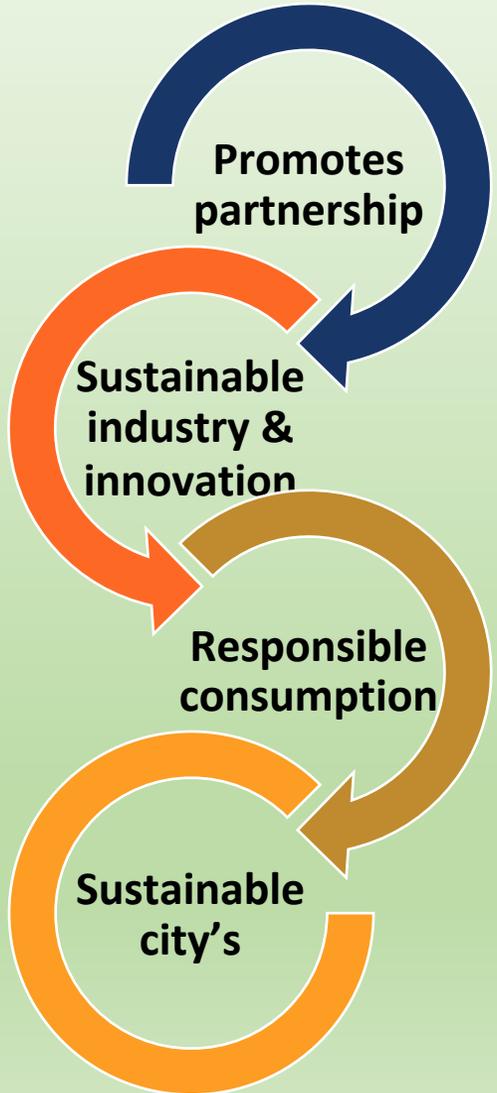


# Industrial Park

**Investment  
USD 30 M**



**MULTI STAKEHOLDERS  
APPROACH  
(Public Private Partnership)**



# Industrial Park

## The ideal location: The Paranam Area



# Key takeaways

## Industrial park

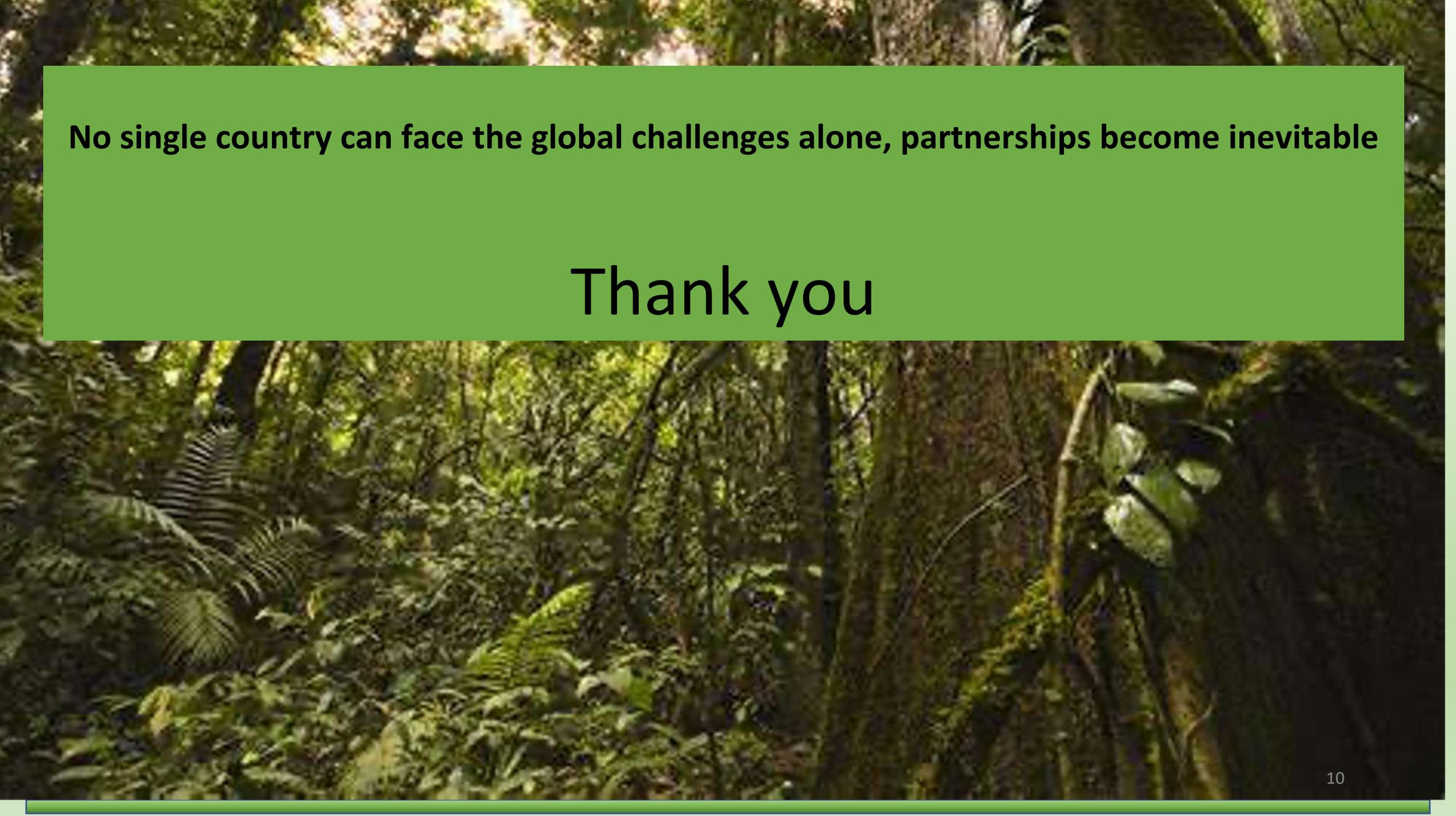
- **Finance of USD30 Million** for the Industry Park for a centralized processing area that will assure sustainable operations.
- Finance requested: Debt, Equity or Public Private Partnership, profit based
- Government land available

## Green wood processing

- **Finance of USD 40 Million** for value added production, eco tourism and non-wood forest products.
- Finance requested: Debt but other options are negotiable.
- 17 Investment projects with feasibility studies.

The projects of Green Wood Processing Finance Fund can be financed individually or together.

All projects will be managed by experienced entrepreneurs and contribute to reach the SDG goals.

A lush tropical forest scene with sunlight filtering through the dense canopy of various green plants and trees. The background is a vibrant green, serving as a backdrop for the text.

**No single country can face the global challenges alone, partnerships become inevitable**

**Thank you**

# Combining restoration and conservation with commercial wood-based value chains in Latin America

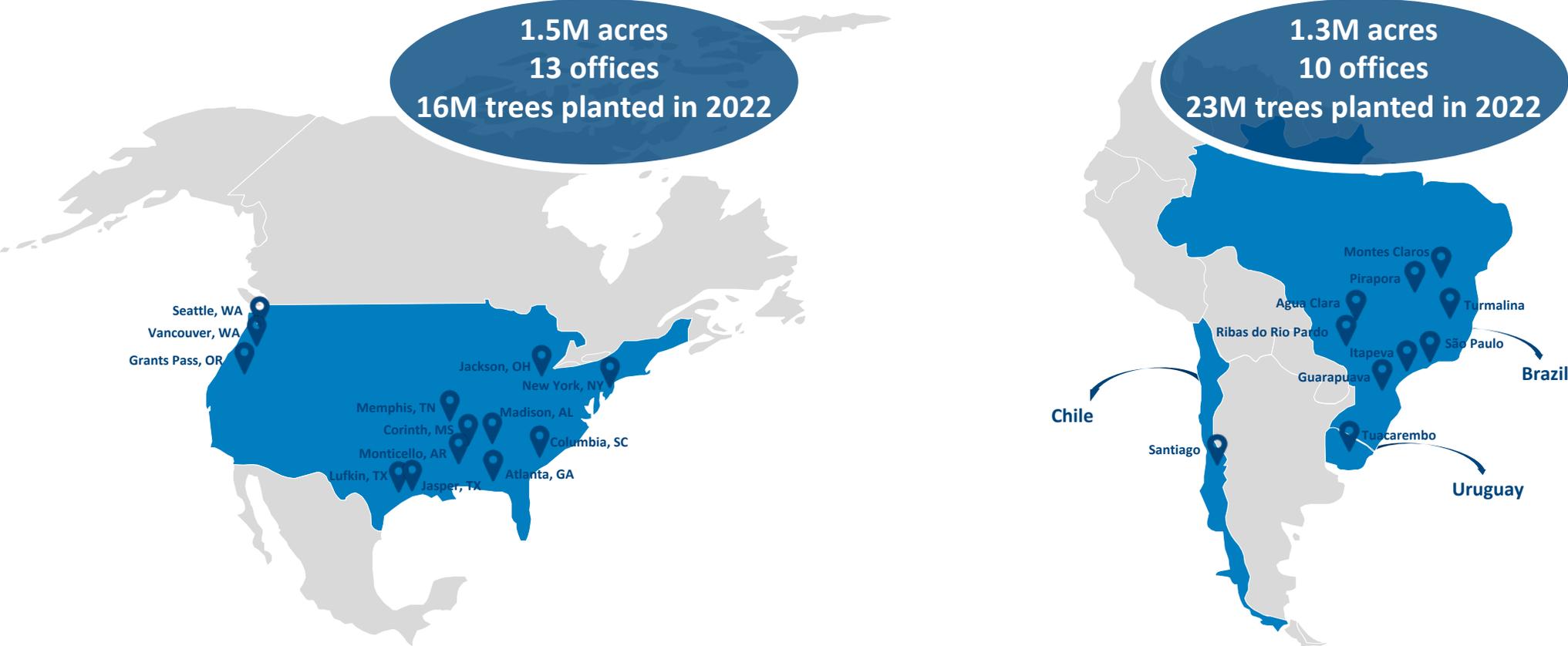
BTG Pactual Timberland Investment Group

FAO F4 webinar on forest-based value chains in Latin America

June 2023

# Timberland Investment Group overview: asset and office locations<sup>1,2</sup>

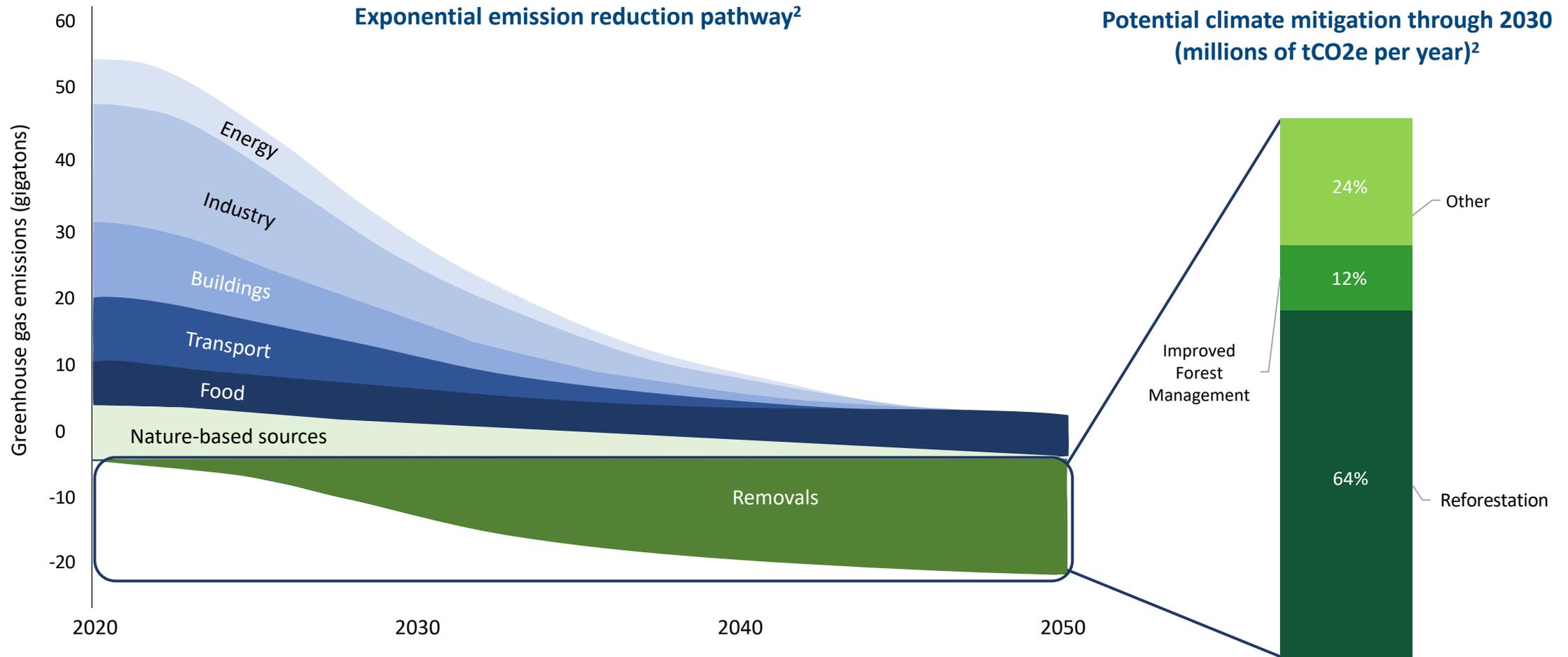
On the-ground, sustainable management of ~3M acres/1.2M hectares of commercial timberland via 23 offices



Notes: (1) Does not include assets in Europe and Africa which represent less than 2% of TIG's AUM; (2) As of March 31, 2023. Image source(s): TIG.

# NCS strategy: climate context

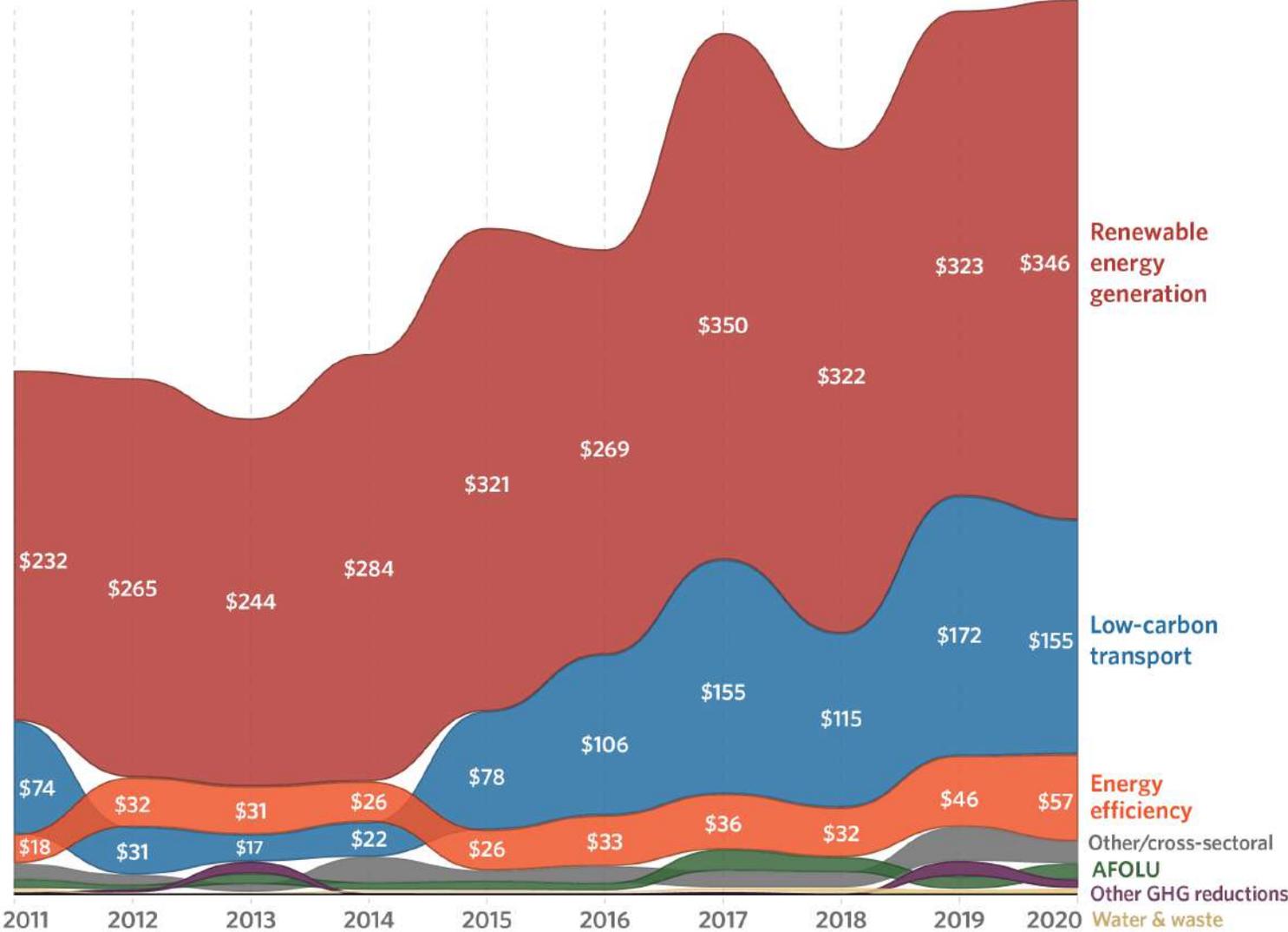
Natural climate solutions are 30% of the solution, 10% of the conversation, and only 3% of the finance<sup>1</sup>



Notes: (1) Nature4Climate ([www.nature4climate.org](http://www.nature4climate.org)), as of May 2020; (2) Exponential Roadmap Initiative 2020, graph is shown for illustrative purposes; (3) Griscom et al. 2017. Natural climate solutions. *Proceedings of the National Academy of Sciences*. 114(44): 11645–11650. Figures reflect potential climate mitigation of nature-based removals through 2030.

# Financing of natural climate solutions remains a stubbornly small share of climate finance

Climate mitigation financing by solution, 2011 to 2020, \$USD billion<sup>1</sup>



Notes: (1) Climate Policy Initiative (2022) Global Landscape of Climate Finance: A Decade of Data 2011-2020

# Nature and climate positive investments – A history of underinvestment

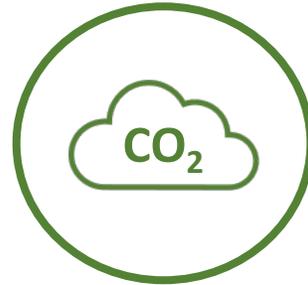
A few ideas on why



Opportunities too small for mainstream investors



Many strategies have high levels of perceived risks



Many offerings rely solely on carbon revenues



Many developers with limited experience/ startups



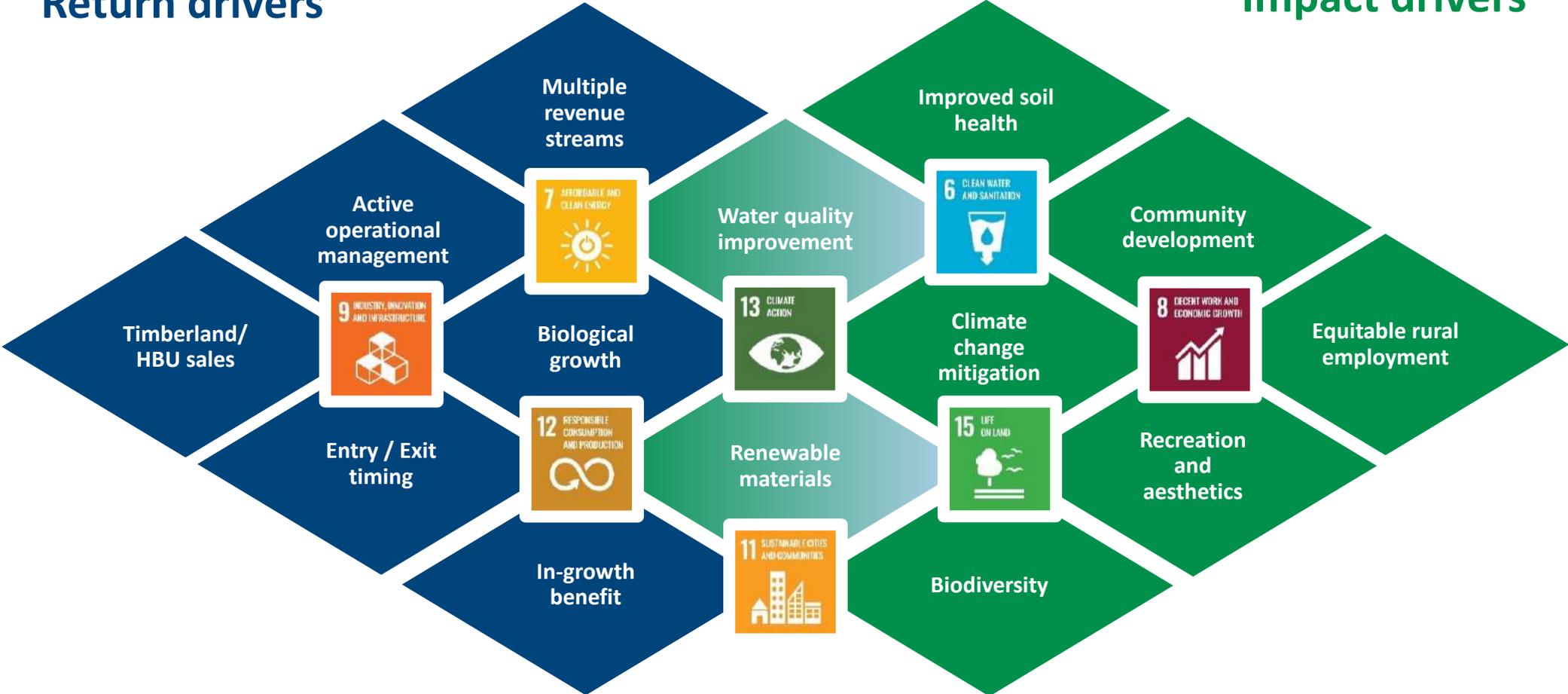
Limited financial return to investors

# Timberland as an Impact Investment

Through sustainable management, return and impact become mutually reinforcing while both supporting multiple UN SDGs

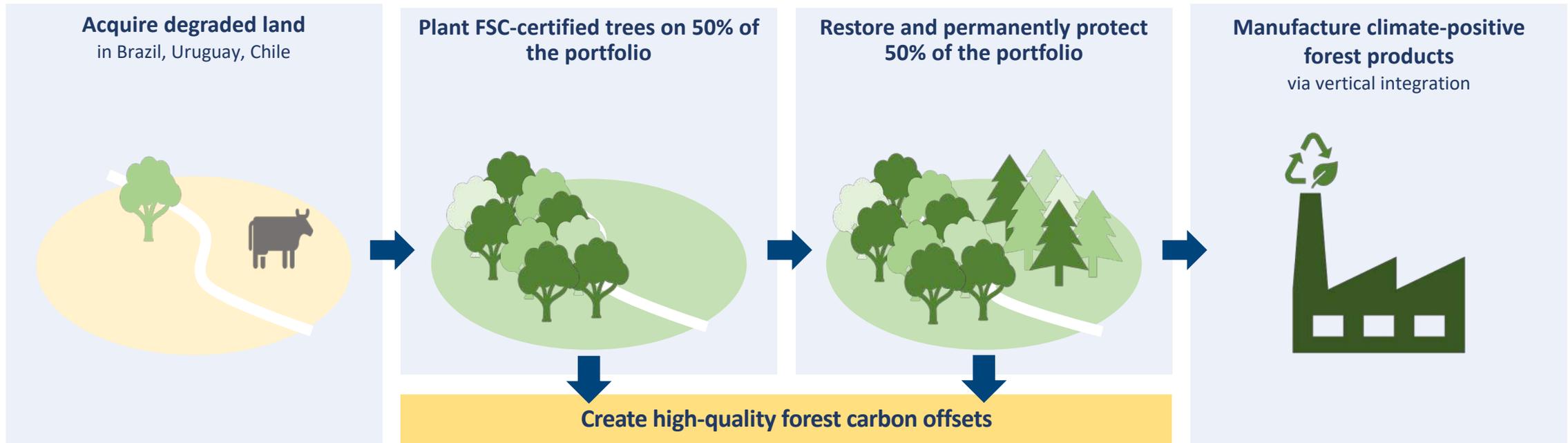
## Return drivers

## Impact drivers



# NCS Strategy: Investment Approach

Leveraging TIG's sustainable forest management expertise to create impact at scale

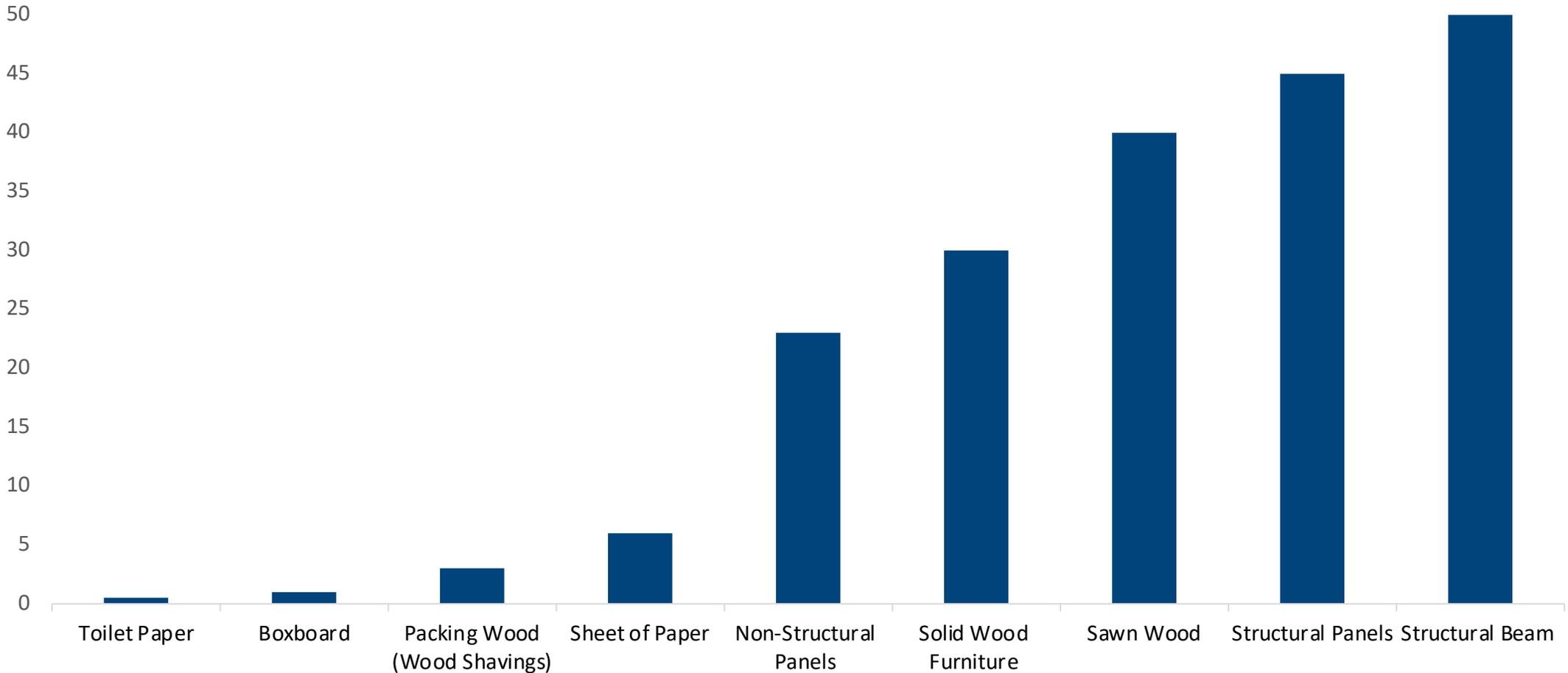


Conservation International serving as Impact Adviser<sup>1</sup> to the NCS strategy

Notes: Objectives do not represent a prediction of returns, or a promise to deliver any particular investment goal. Actual performance may be greater or less than these objectives; (1) CI is an independent third-party and has no connection with the management or operation of the strategy except on a limited basis as Impact Adviser. As impact adviser (and participation of CI personnel on the Impact Advisory Board), CI will provide general nonfinancial advice on investments proposed to be made by TIG and various environmental and related impacts of TIG's proposed investments. Potential investors in the strategy should review the full description of, and express limitations on, CI's services in the offering documentation, including investor acknowledgements, to be furnished by TIG in connection with the sale of interests in the strategy. Image Source: Getty Images

# Long-lived wood products

## Half Life of Wood Products (Years)<sup>(1)</sup>



1: IPCC Good Practice Guidance for LULUCF, 2003.

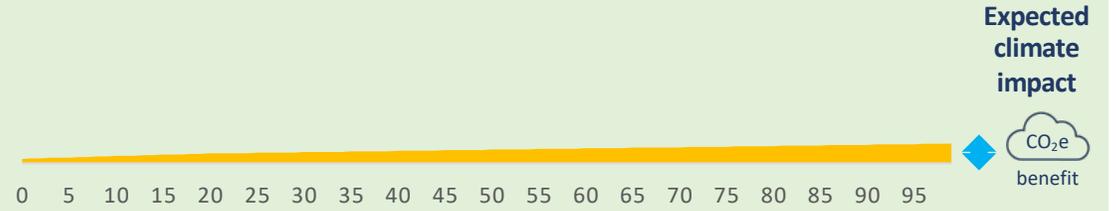
# Multiple benefits of climate-positive reforestation

Investment down the value chain can “multiply” the carbon benefits of reforestation<sup>1,2</sup>



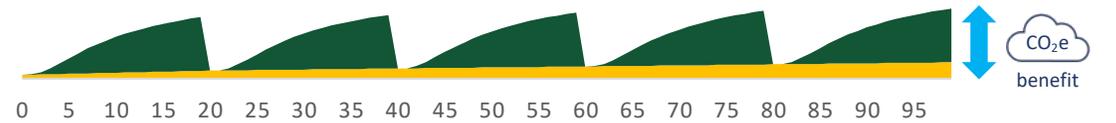
## Forest protection & restoration

Permanent protection of existing forest remnants, and restoration of native forest across ~50% of acquired properties, protects and enhances biodiversity and native forest carbon stock



## + Commercial reforestation

FSC-certified commercial tree farms planted on ~50% of acquired properties rapidly sequester carbon through a sustainable cycle of planting, harvesting, and replanting



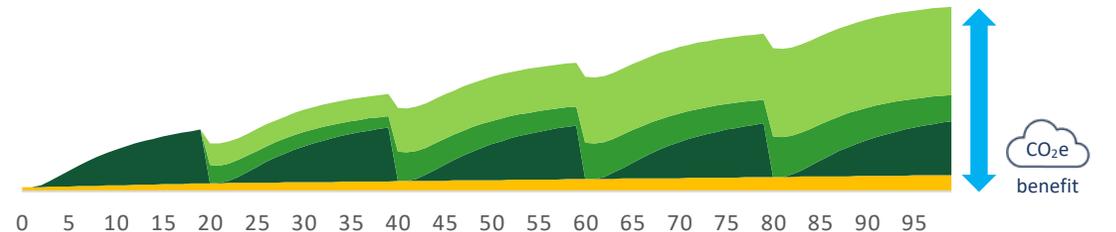
## + Storage

~40% of wood from each harvest goes to long-lived wood products like furniture, doors, and mass timber, sequestering carbon for an average half-life of 30 years



## + Substitution

Wood used in construction, and many other applications, emits less carbon in its manufacture and transport than other materials, like concrete and steel



Illustrative. Notes: (1) Sources: “Substitution Effects of Wood-based Products in Climate Change Mitigation,” Leskinen et. al, 2018; Suarez et al. 2019; IPCC 2006; TIG Analysis; (2) TIG Analysis based on 18-year Eucalyptus sawlog rotation in Brazil. Image source(s): Getty Images, Pollux Chung © / construction by Seagate Structures.

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